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SERVICE MANUAL

Projection Television

52HMX84
62HMX84

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CIRCUIT DIAGRAM

CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

SAFETY PRECAUTION

WARNING: Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. When replacing a chassis in the cabinet, always be certain that all the prospective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

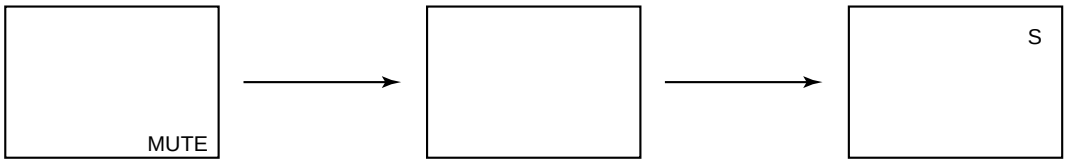
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety character istics as specified in the parts list may create shock, fire, or other hazards.

SERVICE MODE

1. ENTERING SERVICE MODE

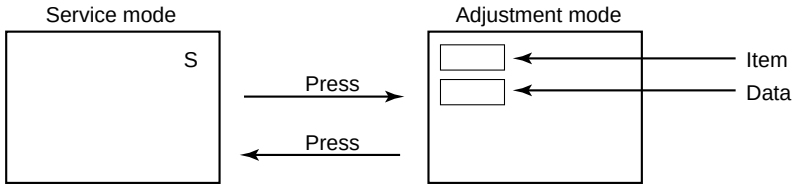
1) Press MUTE button twice on Remote Control.
2) Press MUTE button again and keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-1 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 8)

4. ADJUSTING THE DATA

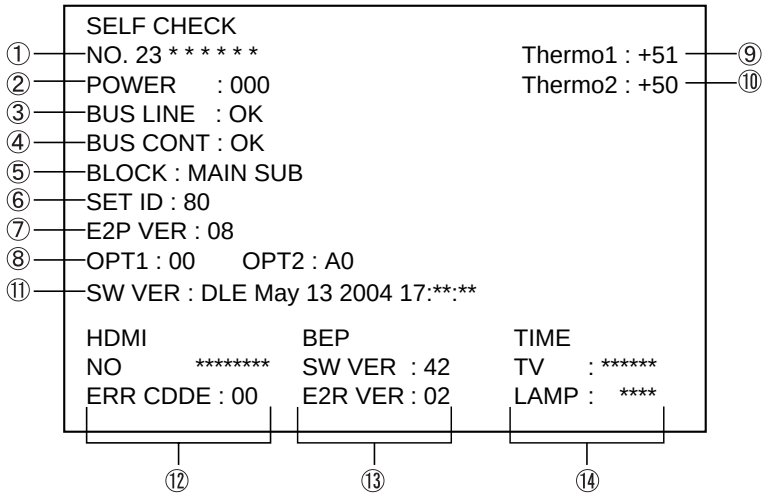
1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

5. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

6. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s is executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (IC609)
② Operation number of protection circuit (The number of times of the power supply OFF by fan stop) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “SCL-GND” or “NG” ..... SCL-GND short circuit
- “SDA-GND” or “NG” ..... SDA-GND short circuit
- “SCL-SDA” or “NG” ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal

⑤ Sync. signal check
- Green display ..... Normal
- Red display ..... NG

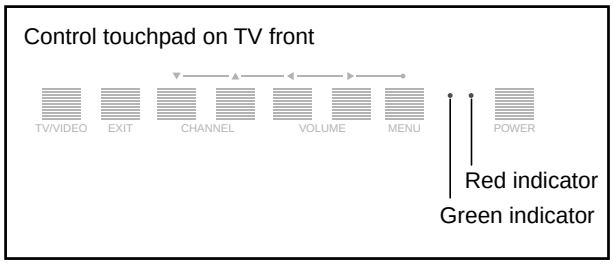
  MAIN ..... Main sync
  SUB ..... Sub sync (when turn on the PIP)

⑥ ID code for TV Set
⑦ Version of "EEP"
⑧ Data for "OPT"
⑨ Temperature of DMD
⑩ Temperature of the color wheel neighborhood
⑪ Software version history
⑫ HDMI Software
   NO ***** .....Serial No.
   ERR CODE .....Error Code
⑬ BEP Software Version
   SW VER : **.....Version
   E2P VER : ** EEP ROM Version
⑭ Use time
   TV .....TV set on time (hour)
   LAMP.....LAMP set on time (hour)
   (It may shift from TV set on time.)

7. LED indications

The green and red LED lights on the TV control touchpad (on the lower right corner of the TV screen) indicate the TV's current status, as follows:

- Green ON = Control touchpad being pressed.
- Red ON = Power ON.
- Green and/or Red blinking (see table below for condition and solution).



	LED Indication	Condition	Solution
1	Red and Green turn off.	Power supply OFF. (AC)	
2	Red and Green turn off.	Power supply OFF. (Standby) (North America)	
3	Red light solid and Green off.	Power supply ON.	
4	Red and Green lights solid.	Touched the touchpad	
5	Green blinks at 1-second intervals; Red off.	Lamp LPS mode	
6	Green blinks at 0.3-second intervals; Red lights solid.	The lamp is not working properly.	The TV automatically will try to reset itself three times.
7	Green lights solid and Red blinks at 0.5-second intervals.	The lamp unit door is not seated properly. (U)	Turn the POWER OFF and unplug the power cord. Review “How to replace the lamp unit” on pages 12-14 to ensure that the lamp unit door is installed securely.
8	Green and Red blink at 1-second intervals.	The lamp is not working properly after the third automatic reset (see item #7). (U)	Turn the POWER OFF and then ON again. If the problem persists, replace the lamp unit (see pages 12-14).
9	Red blinks at 0.5-second intervals; Green off.	FAN (Light engine unit) has stopped.	• Is the output voltage of the supply voltage regulator for the FAN in the power circuit normal? • Has dust accumulated in the FAN? → If the output voltage is not abnormal, replace the faulty FAN with a new one.
10	Red blinks at 1-second intervals; Green off.	BUS line is damaged	• Check the faulty device through the self diagnostics function under SERVICE mode. • Does BUS line (SCL, SDA) work normally? → If the BUS line is under abnormal conditions, replace the faulty device with a new one.
11	Red blinks three times; Green off.	The color wheel has stopped.	• Is the output voltage of the power supply circuit normal? → If the output voltage is normal, replace the engine with a new one.
12	Red and Green blink three times.	Temperature rises abnormally.	• Is the ventilating hole in the set (exhaust slot on the rear) blocked or covered? • Is FAN rotating normally? • Has dust accumulated in the ventilating hole? → If no abnormally conditions are found, replace the engine with a new one.

(U) is restoration by the user.

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SERVICE MODE】

ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

Item	Name of adjustment	Preset	Data
RCUT	R CUT OFF	60H	←
GCUT	G CUTOFF	60H	←
BCUT	B CUT OFF	64H	←
RDRV	R DRIVE	48H	←
GDRV	G DRIVE	53H	←
BDRV	B DRIVE	5FH	←
BRTC	BRIGHT CENTER	76H	←
SCNT	SUB CONTRAST FOR TV	20H	←
COLC	COLOR CENTER	D0H	←
UVTT	BASE BAND TINT	40H	←
CNTX	SUB CONTRAST MAX	7FH	←
HPOS	H-POSITION (PAL/DFS)	00H	←
VPOS	V-POSITION DC SHIFT (PAL/DFS)	00H	←
CWDH	COLOR WHEEL DELAY (HIGH)	00H	←
CWDL	COLOR WHEEL DELAY (LOW)	FAH	←
DMDB	DMD BIAS	03H	←
OPT0	TV SET OPTION 1	00H	01H

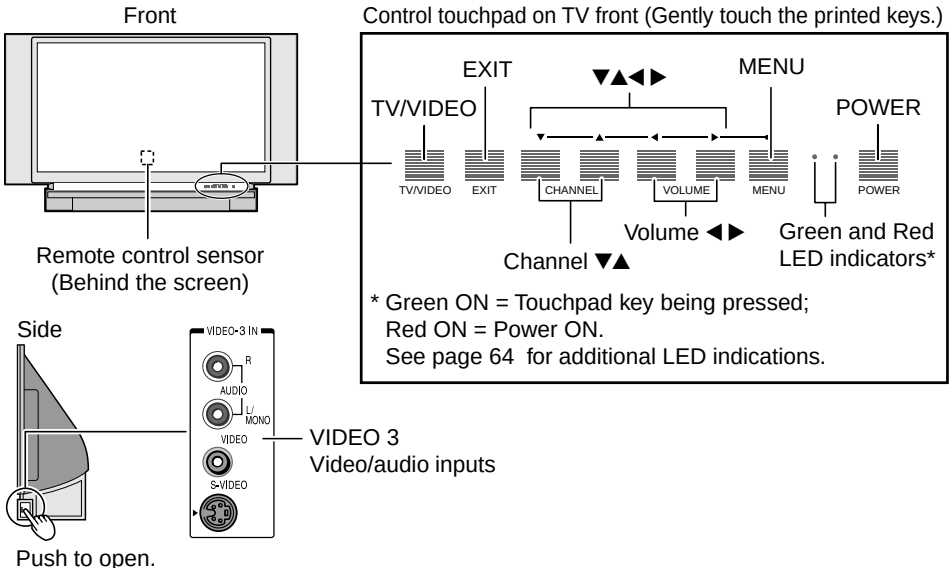
Item	Name of adjustment	Preset	Data
OPT1	TV SET OPTION 2	A0H	B0H
TVOP	TV OPTION	40H	←
PLLW0	PLL WAIT TIME	14H	←
PLLW1	PLL WAIT TIME	03H	←
PLLW2	PLL WAIT TIME	0FH	←
PLLW3	PLL WAIT TIME	05H	←
PLLW4	PLL WAIT TIME	14H	←
PLLW5	PLL WAIT TIME	04H	←
V01	VOLUME (DATA)	23H	←
V25	VOLUME (DATA)	4AH	←
V50	VOLUME (DATA)	63H	←
V75	VOLUME (DATA)	6FH	←
V100	VOLUME (DATA)	73H	←
MODH	MODUS DATA HIGH	20H	←
MODL	MODUS DATA LOW	91H	←
PRES	FMAM PRESCALE	24H	←
SCTH	VOLUME SCART OPTION HIGH	73H	←
SCTL	VOLUME SCART OPTION LOW	01H	←

Table-1

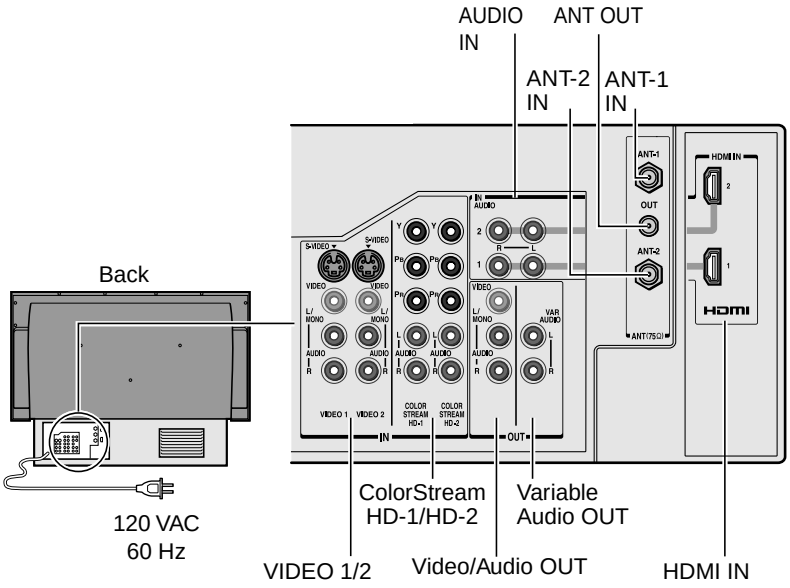
Note:
The image system data of RCUT-CNTX is different by each image format.
The NTSC value is indicated in the table.

LOCATION OF CONTROLS

Front



Back



Remote Control

POWER turns the TV on and off.
Press POWER to turn the TV on. The Red LED indicator will be illuminated. Press POWER again to turn the TV off.

Note:
If the Quick Restart feature is in OFF mode, it can take up to several seconds for the picture to appear. See page 28 for details.

SLEEP allows access to the automatic TV shut-off function

LIGHT The first press of the LIGHT button lights the keypad and turns on the Illumination mode. With the Illumination mode on, pressing any other key lights the keypad for 5 seconds (10 seconds if you're in programming mode).
Subsequent presses of the LIGHT button toggle between turning the Illumination mode on and off.

Channel Numbers (0-9, 100) allow direct access to channels

MODE cycles through the six device modes: TV, CABLE/SAT, VCR, DVD, AUDIO1, and AUDIO2. The mode indicator light will remain lit for a few seconds.

PIC SIZE cycles through the five pictures sizes: Natural, Theater Wide 1, 2, 3, and Full

FAVORITE allows access to the favorite channel search function

MENU allows access to on-screen programming menus

ENTER sets programming menu information

▲▼ ◄► select or adjust programming menus

FAV ▲▼ cycles through favorite channels

CH ▲▼ cycles through programmed channels

VOL ▲▼ adjusts the volume level

EXIT exits the programming menus

INPUT selects the video input source

MUTE mutes the sound

RECALL displays on-screen information

CH RTN returns to the last viewed channels

POP CH ▲▼ selects the POP (picture-out-picture) channel

SPLIT turns the POP feature on and off

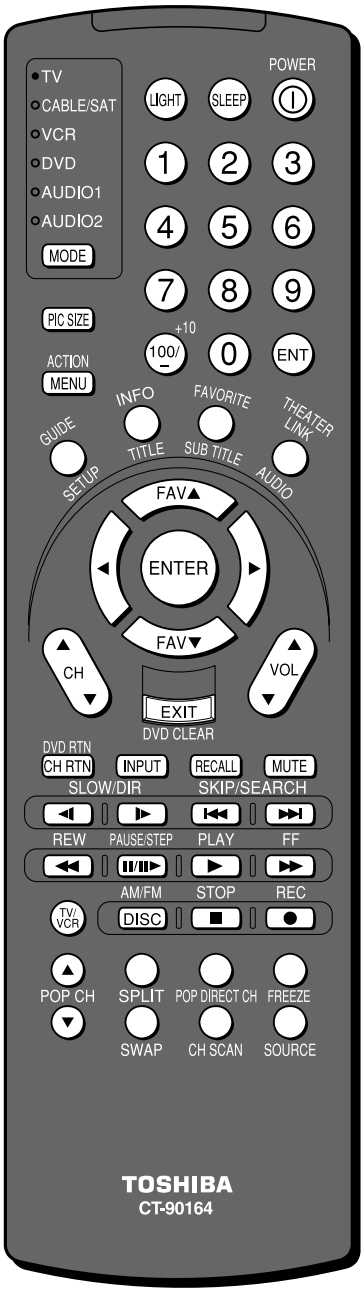
CH SCAN allows access to the programmed channel search functionx

FREEZE freezes the picture. Press again to restore the picture.

SWAP switches the main and POP pictures

POP DIRECT CH allows direct access to POP channels

SOURCE selects the POP picture source



Note:
The error message "Not Available" will appear if you press a key for a function that is not available.

PROGRAMMING CHANNEL MEMORY

Adding channels to the TV's memory

When you press Channel ▲ or ▼, your TV will stop only on the channels stored in the TV's channel memory.

Follow the steps below and on the next page to program all active channels into the TV's memory.

Note:

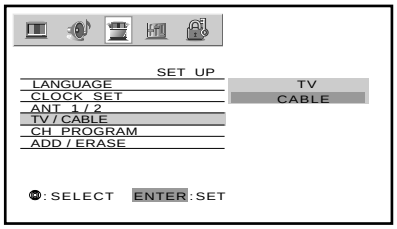
To tune the TV to a channel not programmed in the channel memory, you must use the Channel Number buttons on the remote control.

Programming channels automatically

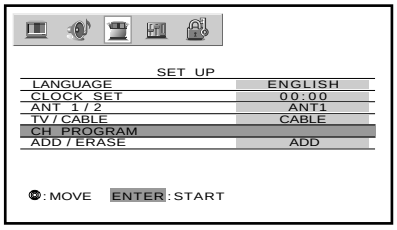
Your TV can automatically detect all active channels in your area and store them in its memory. After the channels are stored automatically, you can manually add or erase individual channels.

To program channels automatically:

1. Press MENU, and then press ◀ or ▶ until the SET UP menu appears.
2. Press ▲ or ▼ until TV/CABLE is highlighted, and then press ENTER to display the pull-down menu.
3. Press ▲ or ▼ to highlight either TV or CABLE, depending on which you use. If you use an antenna, highlight TV; if you use cable channels, highlight CABLE.

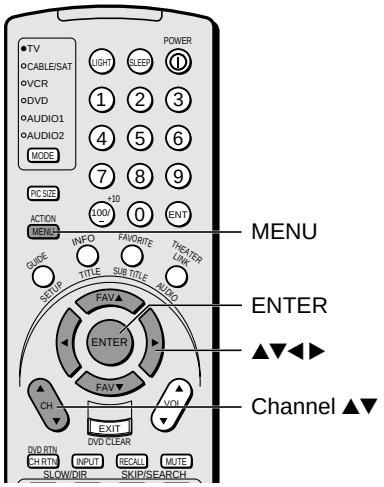


4. Press ENTER.
5. Press ▼ to select CH PROGRAM.



6. Press ENTER to start channel programming. The TV will automatically cycle through all the TV or Cable channels (depending on which you selected), and store all active channels in the channel memory.

   While the TV is cycling through the channels, the message "Programming Now—Please Wait" appears.
7. When channel programming is complete, the message "Completed" appears.
8. Press Channel ▲ or ▼ to view the programmed channels.

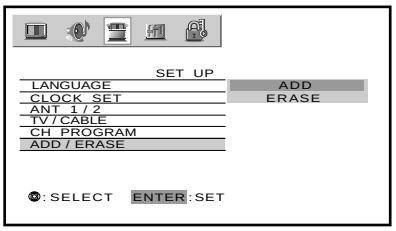


Adding and erasing channels manually

After you have programmed the channels automatically, you can manually add or erase specific channels.

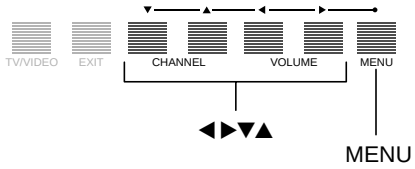
To add or erase channels:

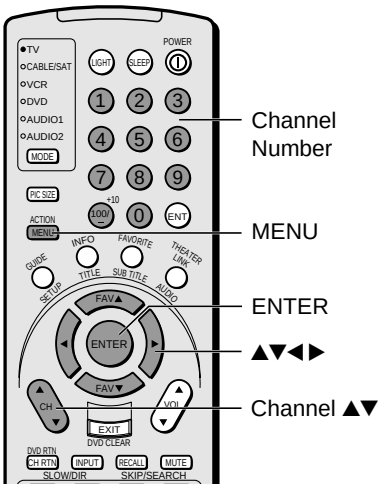
1. Select the channel you want to add or erase. If you are adding a channel, you must select the channel using the Channel Number buttons.
2. Press MENU, and then press ◀ or ▶ until the SET UP menu appears.
3. Press ▲ or ▼ to highlight ADD/ERASE, and then press ENTER to display the pull-down menu.



4. Press ▲ or ▼ to select ADD or ERASE, depending on the function you want to perform.
5. Repeat steps 1–4 for other channels you want to add or erase.

Control touchpad on TV front





LAMP UNIT REPLACEMENT

Cautions when replacing LAMP UNIT (SK02)

The light source for this TV is a mercury lamp with internal atmospheric pressure that increases during use. The lamp has a limited service life that varies depending on user settings. If you use the lamp beyond its service life:

- you may notice a reduction in the colors and/or brightness of the picture; and
- the strength of the quartz glass in the lamp will be reduced and the lamp may rupture (often making a loud noise when this happens). If the lamp reputres, the TV will not operate until the lamp unit is replaced.

Note: The lamp unit is designed so broken lamp glass remains securely inside the lamp unit.

CAUTION: Always handle the lamp unit with care.
The lamp unit in this TV was designed for safe replacement by consumers; however, if the lamp unit is subjected to intentional abuse (such as excessive mechanical abuse or handling by children or pets), the unit may break, exposing edges or pinch points.

When to replace the lamp unit

You should replace the lamp unit:

- if the picture darkens and/or colors fade;
- if the lamp does not light; or
- If you hear a loud noise and the picture goes black, which may indicate a lamp rupture (LED indication #8). See LED indications on page 6.

1. Turn off the TV and unplug the power cord.

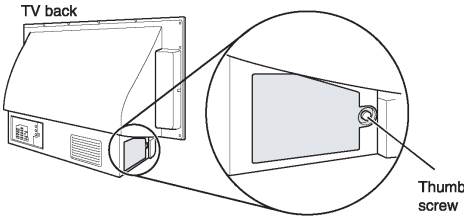
WARNING: Eye damage may result from directly viewing the light produced by this lamp. Always turn off the TV and unplug the power cord before opening the lamp unit door.

2. STOP! Allow the lamp to cool for at least one (1) hour before replacing it.

CAUTION: HOT SURFACE

The temperature of the lamp immediately after use exceeds 392 F (200 C). Touching the lamp at this temperature will result in injury. **ALLOW THE LAMP TO COOL FOR AT LEAST ONE (1) HOUR BEFORE REPLACING IT.**

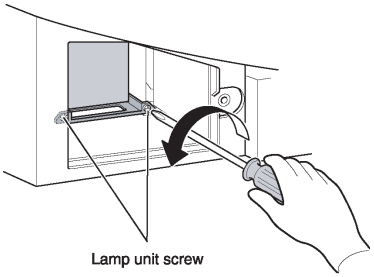
3. On the back of the TV, loosen the thumb screw (by hand) on the lamp unit door, and then remove the lamp unit door.



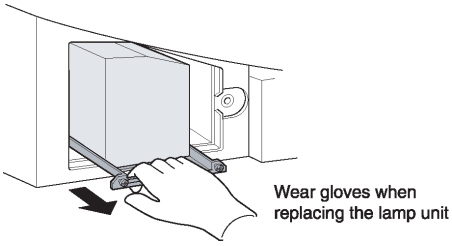
Lamp unit door detail

WARNING: The lamp unit door is provided with an interlock to reduce the risk of electric shock and excessive ultraviolet radiation. **Never defeat its purpose or attempt to service without removing the lamp unit door completely.** Failure to follow this WARNING may result in death or serious injury.

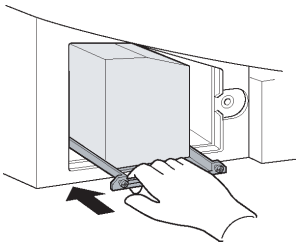
4. Using a manual screwdriver, loosen two screws on the lamp unit.


Lamp unit screw

5. Grasp the lamp unit handle and gently pull the lamp unit straight out of the TV. Set the old lamp unit aside.


Wear gloves when replacing the lamp unit

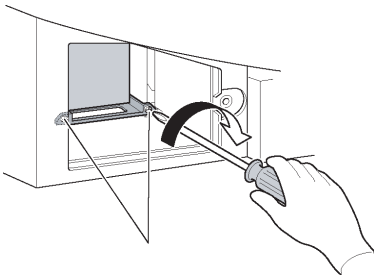
6. Carefully insert the new lamp unit straight into the TV until it is fully seated.



Note :

- Never subject the lamp unit to excessive shock.
- Never touch the lamp unit glass or otherwise get it dirty.
- Doing so may affect the image quality and reduce the service life of the lamp. See “Cleaning the lamp unit glass” below.

7. Using a manual screwdriver, tighten two lamp unit screws.
Note:Hand-tighten only. Do not use an electric screwdriver.

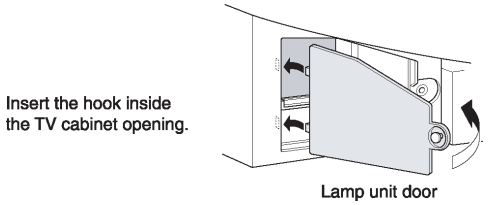

Lamp unit screw
(hand-tighten only)

Cleaning the lamp unit glass

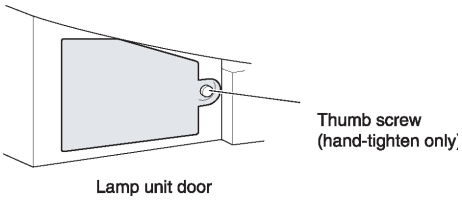
If you accidentally touch the lamp unit glass or otherwise get it dirty, wipe it with a lint-free lens cleaning cloth (such as a cloth for cleaning camera lenses or eyeglasses).

CAUTION: NEVER clean a hot lamp with any type of flammable liquid or aerosol cleaning agent. Many ordinary cleaning agents (such as glass cleaners) contain chemicals that may be flammable at certain temperatures. If the lamp unit is not allowed to cool for at least one (1) hour, such chemicals may ignite.

8. Reattach the lamp unit door, making sure to insert the hook on the left side of the lamp unit door inside the opening in the TV cabinet.



9. Replace the thumb screw and hand-tighten.



NOTE: Make sure the lamp unit and screw are installed securely; otherwise, the TV may not turn on and the lamp life may be shortened.

10. Plug in the power cord and turn on the TV. After the initial warmup period (which may take up to 45 seconds for full picture brightness), the TV should operate normally. If any of the following conditions exist, turn off the TV, unplug the power cord, and repeat steps 1-9 to ensure that the lamp unit and lamp unit door are installed correctly:
    - No picture
    - Dark picture
    - TV will not turn on

LIGHT ENGINE REPLACEMENT

Cautions when replacing LIGHT ENGINE

LIGHT ENGINE UNIT:

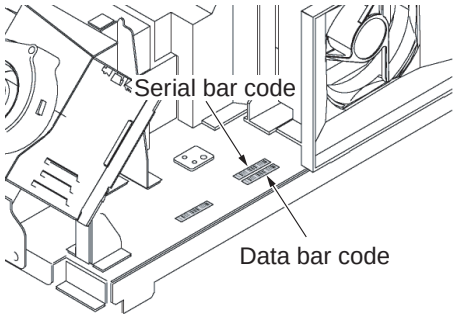
A271 : PJ-TB25-46/52/62 (Including with SK02 to SK08)

SK01 : PJ-TB-25-46S/52S/62S
(Including with SK03 to SK08 except SK02)

- LIGHT ENGINE is a heart of the TV and emits high heat. Make sure to replace it after turning off the TV and wait for sufficient cool down. (More than one hour is recommended.)
- Do not impact during replacement; otherwise, some parts may be damaged.
- Do not touch optical lens. Adhesion of dirt may deteriorate its performance.
- Do not loosen any screw other than those to be removed for adjustment or replacement.
- LIGHT ENGINE emits ultraviolet rays when the TV is ON. Make sure to be careful.

1. Replacement of Light Engine Unit

1-1. When Light Engine Unit is replaced with a new one, adjustment is required. Adjusted values are described in bar code, and the values of bar code must be converted to the adjusted values for the setup. There are 2 types of bar code.



Serial bar code
Ex. 52A000A111111

Inch size Serial numbers

Data bar code (CW: color wheel)
Ex. A111111B1111

CWdelay number: 4digits
DMD bias value
Substrate serial numbers

1-2. Adjustment is made from service mode. The adjusting items consist of CWDL, CWDH and DMDB.

CWDL CWDH

When CW delay number of the data bar code is 0450:

0450 indicates ⇒ 450 ⇒ 45.0
Double 45.0 to form hexadecimal number (HEX).

45.0 x 2=90 ⇒ 5A (hexadecimal)
The adjusted value becomes “5A” for CWDL and “00” for CWDH.
If hexadecimal number forms 3 or 4 digits, the latter 2 digits indicate CWDL while the first 2 digits indicate CWDH.
(For 3 digits, CWDH=0*)

Note:
For converting decimal number to hexadecimal number, see the conversion table on the next page.

DMDB

Read DMD bias value described in alphabet from the data bar code. In service mode, DMDB value is converted and fixed by the following table.

DMD value in bar code	Adjusted value (Hex)
B	00
C	01
D	02
E	03
F	04

Refer to Service Mode for adjusting the service mode.

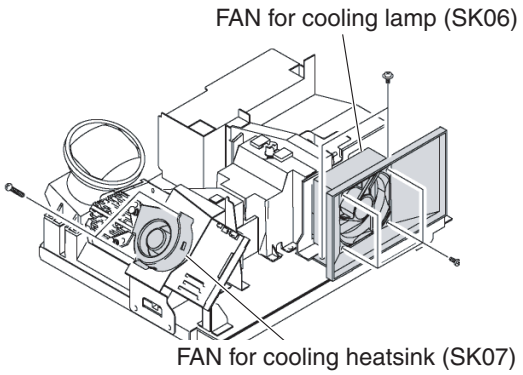
Conversion Table for Decimal and Hexadecimal Numbers

CW delay number	CWDH	CWDL
0000	00	00
0005	00	01
0010	00	02
0015	00	03
0020	00	04
0025	00	05
0030	00	06
0035	00	07
0040	00	08
0045	00	09
0050	00	0A
0055	00	0B
0060	00	0C
0065	00	0D
0070	00	0E
0075	00	0F
0080	00	10
0085	00	11
0090	00	12
0095	00	13
0100	00	14
0105	00	15
0110	00	16
0115	00	17
0120	00	18
0125	00	19
0130	00	1A
0135	00	1B
0140	00	1C
0145	00	1D
0150	00	1E
0155	00	1F
0160	00	20
0165	00	21
0170	00	22
0175	00	23
0180	00	24
0185	00	25
0190	00	26
0195	00	27
0200	00	28
0205	00	29
0210	00	2A
0215	00	2B
0220	00	2C
0225	00	2D
0230	00	2E
0235	00	2F
0240	00	30
0245	00	31
0250	00	32
0255	00	33
0260	00	34
0265	00	35
0270	00	36
0275	00	37
0280	00	38
0285	00	39
0290	00	3A
0295	00	3B
0300	00	3C
0305	00	3D
0310	00	3E
0315	00	3F
0320	00	40
0325	00	41
0330	00	42
0335	00	43
0340	00	44
0345	00	45
0350	00	46
0355	00	47
0360	00	48
0365	00	49
0370	00	4A
0375	00	4B
0380	00	4C
0385	00	4D
0390	00	4E
0395	00	4F
0400	00	50
0405	00	51
0410	00	52
0415	00	53
0420	00	54
0425	00	55
0430	00	56
0435	00	57
0440	00	58
0445	00	59
0450	00	5A
0455	00	5B
0460	00	5C
0465	00	5D
0470	00	5E
0475	00	5F
0480	00	60
0485	00	61
0490	00	62
0495	00	63
0500	00	64
0505	00	65
0510	00	66
0515	00	67
0520	00	68
0525	00	69
0530	00	6A
0535	00	6B
0540	00	6C
0545	00	6D
0550	00	6E
0555	00	6F
0560	00	70
0565	00	71
0570	00	72
0575	00	73
0580	00	74
0585	00	75
0590	00	76
0595	00	77
0600	00	78
0605	00	79
0610	00	7A
0615	00	7B
0620	00	7C
0625	00	7D
0630	00	7E
0635	00	7F
0640	00	80
0645	00	81
0650	00	82
0655	00	83
0660	00	84
0665	00	85
0670	00	86
0675	00	87
0680	00	88
0685	00	89
0690	00	8A
0695	00	8B
0700	00	8C
0705	00	8D
0710	00	8E
0715	00	8F
0720	00	90
0725	00	91
0730	00	92
0735	00	93
0740	00	94
0745	00	95
0750	00	96
0755	00	97
0760	00	98
0765	00	99
0770	00	9A
0775	00	9B
0780	00	9C
0785	00	9D
0790	00	9E
0795	00	9F
0800	00	A0
0805	00	A1
0810	00	A2
0815	00	A3
0820	00	A4
0825	00	A5
0830	00	A6
0835	00	A7
0840	00	A8
0845	00	A9
0850	00	AA
0855	00	AB
0860	00	AC
0865	00	AD
0870	00	AE
0875	00	AF
0880	00	B0
0885	00	B1
0890	00	B2
0895	00	B3
0900	00	B4
0905	00	B5
0910	00	B6
0915	00	B7
0920	00	B8
0925	00	B9
0930	00	BA
0935	00	BB
0940	00	BC
0945	00	BD
0950	00	BE
0955	00	BF
0960	00	C0
0965	00	C1
0970	00	C2
0975	00	C3
0980	00	C4
0985	00	C5
0990	00	C6
0995	00	C7
1000	00	C8
1005	00	C9
1010	00	CA
1015	00	CB
1020	00	CC
1025	00	CD
1030	00	CE
1035	00	CF
1040	00	D0
1045	00	D1
1050	00	D2
1055	00	D3
1060	00	D4
1065	00	D5
1070	00	D6
1075	00	D7
1080	00	D8
1085	00	D9
1090	00	DA
1095	00	DB
1100	00	DC
1105	00	DD
1110	00	DE
1115	00	DF
1120	00	E0
1125	00	E1
1130	00	E2
1135	00	E3
1140	00	E4
1145	00	E5
1150	00	E6
1155	00	E7
1160	00	E8
1165	00	E9
1170	00	EA
1175	00	EB
1180	00	EC
1185	00	ED
1190	00	EE
1195	00	EF
1200	00	F0
1205	00	F1
1210	00	F2
1215	00	F3
1220	00	F4
1225	00	F5
1230	00	F6
1235	00	F7
1240	00	F8
1245	00	F9
1250	00	FA
1255	00	FB
1260	00	FC
1265	00	FD
1270	00	FE
1275	00	FF
1280	01	00
1285	01	01
1290	01	02
1295	01	03
1300	01	04
1305	01	05
1310	01	06
1315	01	07
1320	01	08
1325	01	09
1330	01	0A
1335	01	0B
1340	01	0C
1345	01	0D
1350	01	0E
1355	01	0F
1360	01	10
1365	01	11
1370	01	12
1375	01	13
1380	01	14
1385	01	15
1390	01	16
1395	01	17
1400	01	18
1405	01	19
1410	01	1A
1415	01	1B
1420	01	1C
1425	01	1D
1430	01	1E
1435	01	1F
1440	01	20
1445	01	21
1450	01	22
1455	01	23
1460	01	24
1465	01	25
1470	01	26
1475	01	27
1480	01	28
1485	01	29
1490	01	2A
1495	01	2B
1500	01	2C
1505	01	2D
1510	01	2E
1515	01	2F
1520	01	30
1525	01	31
1530	01	32
1535	01	33
1540	01	34
1545	01	35
1550	01	36
1555	01	37
1560	01	38
1565	01	39
1570	01	3A
1575	01	3B
1580	01	3C
1585	01	3D
1590	01	3E
1595	01	3F
1600	01	40
1605	01	41
1610	01	42
1615	01	43
1620	01	44
1625	01	45
1630	01	46
1635	01	47
1640	01	48
1645	01	49
1650	01	4A
1655	01	4B
1660	01	4C
1665	01	4D
1670	01	4E
1675	01	4F
1680	01	50
1685	01	51
1690	01	52
1695	01	53
1700	01	54
1705	01	55
1710	01	56
1715	01	57
1720	01	58
1725	01	59
1730	01	5A
1735	01	5B
1740	01	5C
1745	01	5D
1750	01	5E
1755	01	5F
1760	01	60
1765	01	61
1770	01	62
1775	01	63
1780	01	64
1785	01	65
1790	01	66
1795	01	67

PARTS REPLACEMENT IN LIGHT ENGINE

1. FAN Replacement (SK06 and SK07)

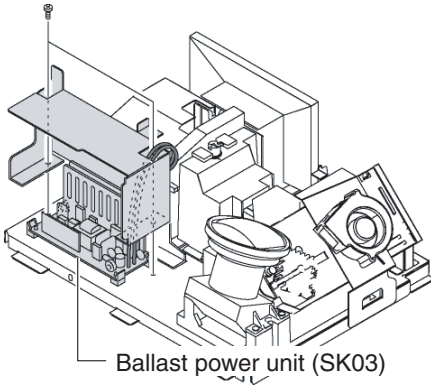
1-1. For replacing FAN for cooling heatsink (SK07), remove 2 screws.
For replacing FAN for cooling lamp (SK06), detach FAN hood located on LIGHT ENGINE by removing 2 screws and then remove 4 screws.



2. Replacement of Ballast Power Unit (SK03)

2-1. Remove lamp unit by loosening 2 screws.
(Refer to pages 12 to 14)

2-2. Remove 2 screws holding chassis of ballast power unit (SK03) to detach the chassis.
Note:
Treat with enough care so as not to damage the cable for lamp power.

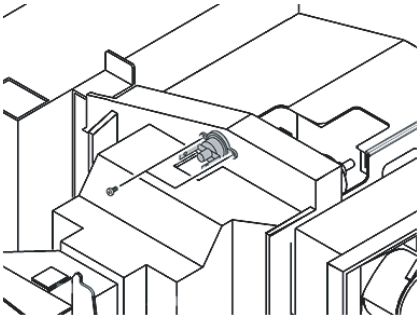


2-3. Detach the ballast power unit by removing 4 substrate stoppers that hold the ballast power unit.

CAUTION
Precautions When Exchanging Ballast Power Units
When you install a new ballast power unit, install it while pushing the four corners of the board directly. Installation while pressing the heatsink may cause the pattern crack.

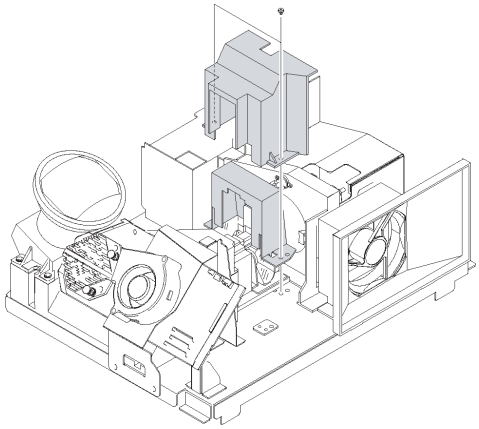
3. Replacement of Temperature Breaker (SK08)

3-1. Remove 2 screws for replacing the temperature breaker (SK08) for lamp.

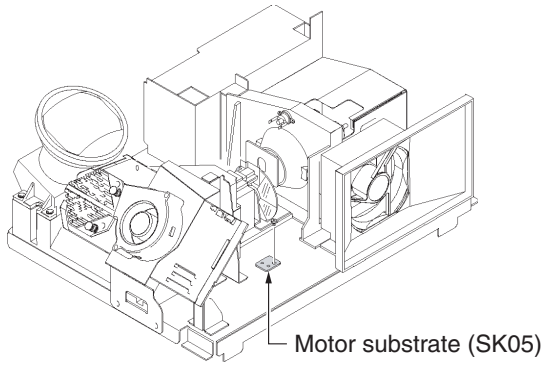


4. Replacement of Sensor Unit (Photo Detector Substrate) (SK04) & Motor Unit (Motor Substrate) (SK05)

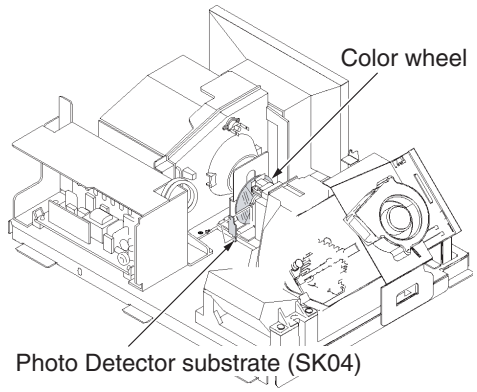
4-1. Remove 2 screws fixing a color wheel cover and UV filter box.



4-2. Remove one screw for Motor Substrate (SK05).



4-3. Remove 2 screws holding Photo Detector substrate (SK04).



Caution
- When removing screws, do not damage the color wheel with drivers, etc. Even a small impact may damage the color wheel.
- Make sure not to touch the color wheel.
- Don't remove other screws by any means.

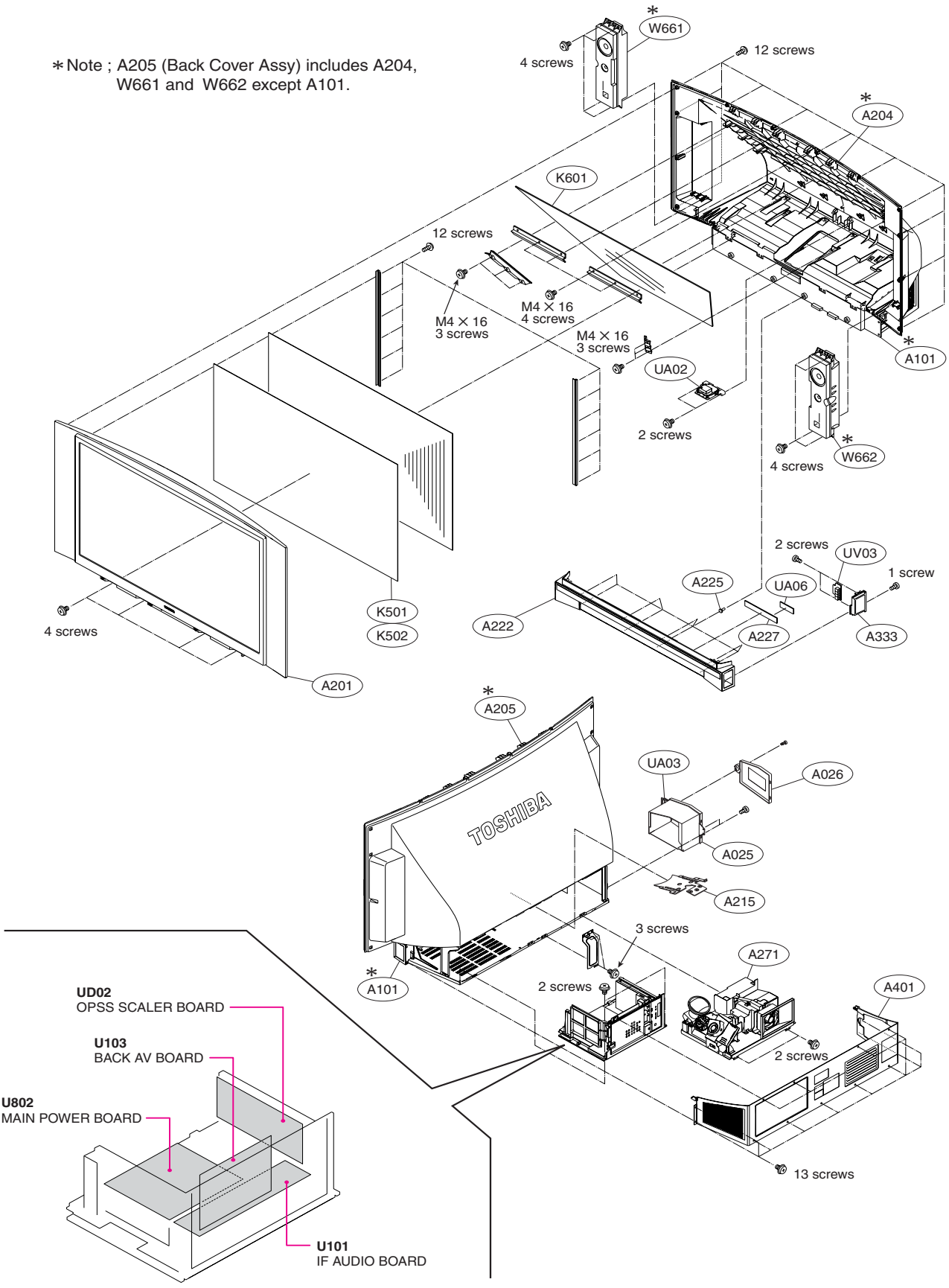
5. LIGHT ENGINE UNIT

Location No.		Parts No.	Description
⚠ A271	#1	23405372	OPTICAL ENGINE, PJ-TB25-52 (Incl. SK02-SK08)
⚠	#2	23405379	OPTICAL ENGINE, PJ-TB25-62 (Incl. SK02-SK08)
SK01	#1	23405385	OPTICAL ENGINE, PJ-TB25-52S (Incl. SK03-SK08)
	#2	23405386	OPTICAL ENGINE, PJ-TB25-62S (Incl. SK03-SK08)
SK02		23587201	SERVICE KIT, SHP66 LAMP UNIT SHP66 LAMP UNIT
SK03		23122468	POWER UNIT, RPB-4434ZA RPB-4434ZA
SK04		23762354	PC BOARD ASSY, SENSOR UNIT PD1823 SENSOR UNIT
SK05		23762355	PC BOARD ASSY, MOTOR UNIT PD1824 MTR UNIT
SK06		23125920	FAN, D09A-12PS6 01B(K) D09A-12PS6 01B(K)
SK07		23125919	FAN, D07F-12SS1801B(EX) 07F-12SS1801B(EX)
SK08		23144199	BREAKER, US-603UXTLQE-H US-603UXTLQE-H

#1:[52HMX84] #2:[62HMX84]

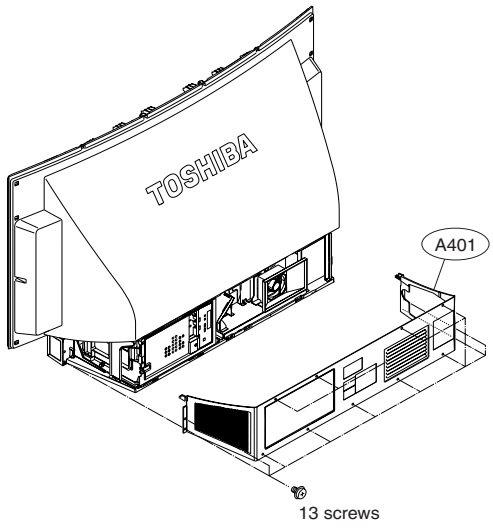
EXPLODED VIEW

∗Note ; A205 (Back Cover Assy) includes A204, W661 and W662 except A101.

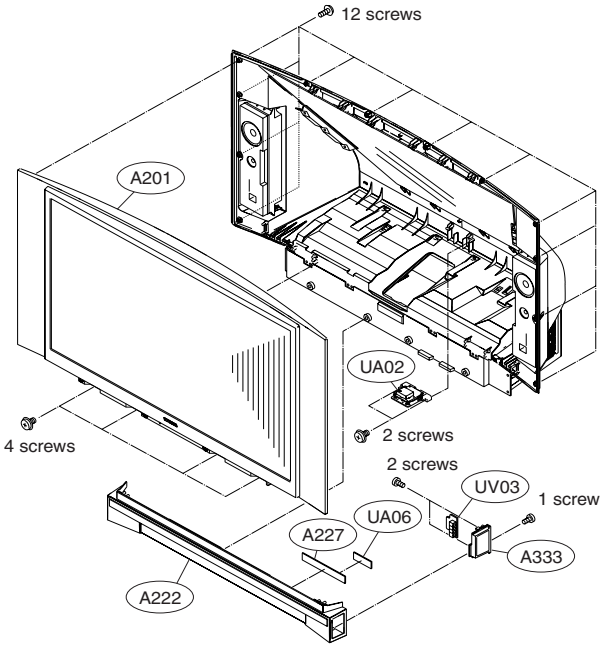


MECHANICAL DISASSEMBLY

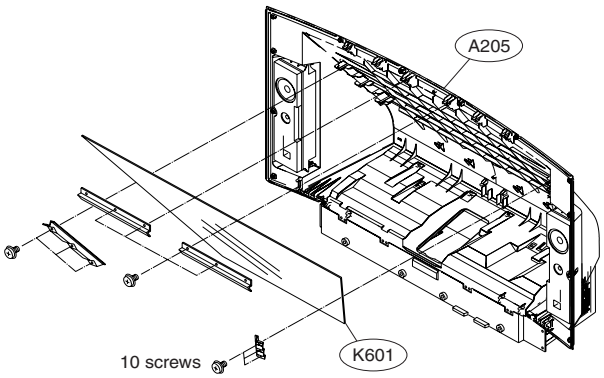
1 Rear Cover Removal



2 Touchpad & Bezel Ass'y Removal

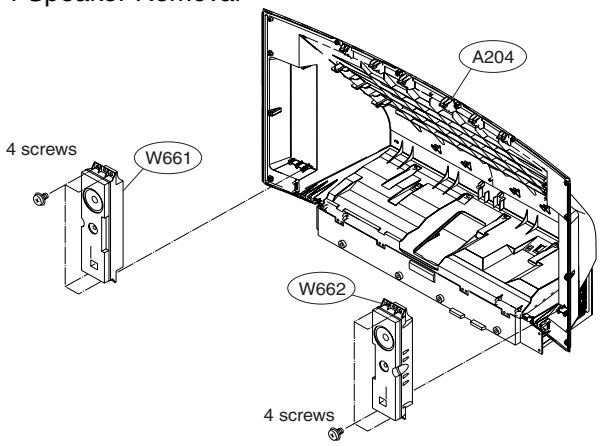


3 Mirror Removal

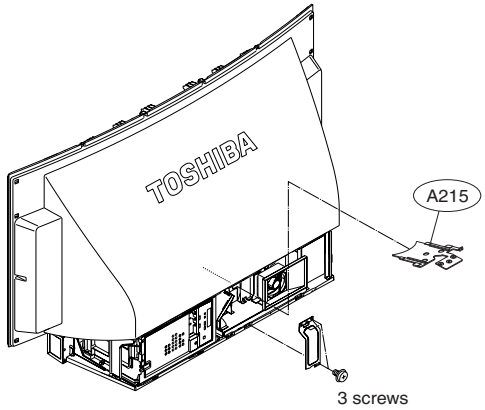


Note ; A205 includes A204, W661 and W662.

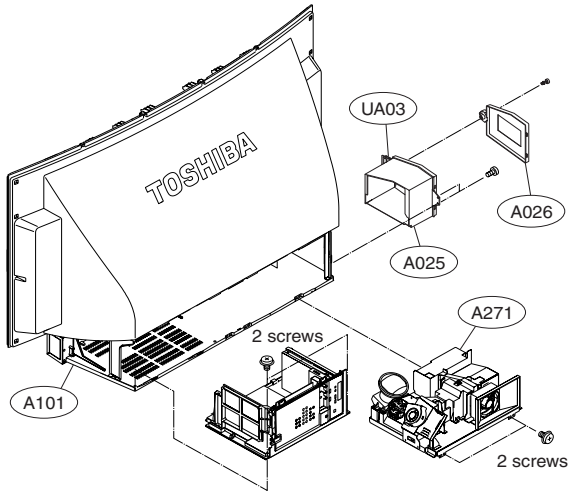
4 Speaker Removal



5 Bracket Removal



6 Optical Engine Removal



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

Model : 52HMX84/62HMX84

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
#1:[52HMX84]		
#2:[62HMX84]		
CAPACITORS		
C101	24797339	ELECTROLYTIO CE04G, 50V 3.3UF M
C102	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A
C105	24100102	CERAMIC CHIP, 50V F 1000PF Z
C106	24669479	ELECTROLYTIC, 50V 4.7UF M 3A
C107	24666221	ELECTROLYTIC 04Q, 16V 220UF M 3A
C108	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A
C109	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C110	24794101	ELECTROLYTIC, 16V 100UF M
C601	24109122	CERAMIC CHIP, 50V B 1200PF K
C602	24109122	CERAMIC CHIP, 50V B 1200PF K
C603	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C604	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C605	24073086	ELECTROLYTIC, 50V 10UF M 3A
C606	24073086	ELECTROLYTIC, 50V 10UF M 3A
C607	24073053	ELECTROLYTIC, 25V 100UF M 3A
C608	24073086	ELECTROLYTIC, 50V 10UF M 3A
C612	24073054	ELECTROLYTIC CE04P 25V 220UF M 3A
C621	24109822	CERAMIC CHIP, 50V B 8200PF K
C622	24109822	CERAMIC CHIP, 50V B 8200PF K
C661	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C662	24073086	ELECTROLYTIC, 50V 10UF M 3A
C663	24073086	ELECTROLYTIC, 50V 10UF M 3A
C665	24109103	CERAMIC CHIP, 50V B 0.01UF K
C666	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C667	24794100	ELECTROLYTIC, 16V 10UF M
C668	24105560	CERAMIC CHIP, 50V CH 56PF J
C669	24105560	CERAMIC CHIP, 50V CH 56PF J
C680	24073073	ELECTROLYTIC, 35V 2200UF M 3A
C681	24109103	CERAMIC CHIP, 50V B 0.01UF K
C682	24073082	ELECTROLYTIC, 50V 2.2UF M 3A
C683	24073053	ELECTROLYTIC, 25V 100UF M 3A
C684	24795470	ELECTROLYTIC 04G, 25V 47UF M
⚠C801	24503004	PLASTIC FILM, AC275V 0.47UF M
⚠C803	24503002	PLASTIC FILM, AC275V 0.22UF M
C805	24092281	CERAMIC DISC, AC250V E 4700PF
C809	24086067	ELECTROLYTIC 692Q 200V 1000UF M 3F
C810	24086067	ELECTROLYTIC 692Q 200V 1000UF M 3F

Location No.	Parts No.	Description
⚠C811	24092557	CERAMIC DISC, AC250V E 2200PF M
⚠C812	24092557	CERAMIC DISC, AC250V E 2200PF M
⚠C814	24092553	CERAMIC DISC, AC250V B 470PF K
⚠C816	24092555	CERAMIC DISC, AC250V E 1000PF M
C840	24679220	ELECTROLYTIC, 250V 22UF M 3A
C841	24073043	ELECTROLYTIC, 16V 2200UF M 3A
C842	24503041	PLASTIC FILM , 63V 0.1UF J
C843	24092333	CERAMIC DISC, 2KV 100PF K
C845	24073082	ELECTROLYTIC, 50V 2.2UF M 3A
C848	24073039	ELECTROLYTIC, 16V 220UF M 3A
C861	24092342	CERAMIC DISC, 2KV R 560PF K
C862	24503045	PLASTIC FILM, 63V 0.22UF J
C863	24212221	CERAMIC DISC, 50V B 220PF K
C864	24590681	PLASTIC FILM CQ922M 50V 680PF J
C865	24073063	ELECTROLYTIC CE04P 35V 4.7UF M 3A
C866	24820223	PLASTIC FILM, 630V 0.022UF J
C868	24073068	ELECTROLYTIC, 35V 100UF M 3A
C883	24567104	PLASTIC FILM, 50V 0.1UF J
C884	24214331	CERAMIC DISC, 500V B 330PF K
C885	24073191	ELECTROLYTIC CE04P 35V 1500UF M 3A
C886	24214331	CERAMIC DISC, 500V B 330PF K
C887	24676470	ELECTROLYTIC, 100V 47UF M 3A
C888	24214331	CERAMIC DISC, 500V B 330PF K
C889	24073171	ELECTROLYTIC CE04P 25V 820UF M 3A
C890	24214331	CERAMIC DISC, 500V B 330PF K
C891	24073161	ELECTROLYTIC CE04P 16V 3900UF M 3A
C892	24214331	CERAMIC DISC, 500V B 330PF K
C893	24073173	ELECTROLYTIC CE04P 10V 3900UF M 3A
C894	24214331	CERAMIC DISC, 500V B 330PF K
C895	24073075	ELECTROLYTIC CE04P 35V 4700UF M 3A
C898	24503041	PLASTIC FILM , 63V 0.1UF J
C8200	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8201	24503047	PLASTIC FILM, 63V 0.33UF J
C8202	24073169	ELECTROLYTIC CE04P 25V 470UF M 3A
C8210	24073172	ELECTROLYTIC CE04P 25V 1000UF M 3A
C8211	24503041	PLASTIC FILM , 63V 0.1UF J
C8212	24214221	CERAMIC DISC, 500V B 220PF K
C8213	24503041	PLASTIC FILM , 63V 0.1UF J
C8214	24617006	ELECTROLYTIC 04CH, 25V 820UF M
C8215	24073138	ELECTROLYTIC CE04P 10V 220UF M 3A
C8220	24073068	ELECTROLYTIC, 35V 100UF M 3A

Location No.	Parts No.	Description
C8221	24073169	ELECTROLYTIC CE04P 25V 470UF M 3A
C8224	24073087	ELECTROLYTIC, 50V 22UF M 3A
C8225	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8240	24073038	ELECTROLYTIC, 16V 100UF M 3A
C8241	24503047	PLASTIC FILM, 63V 0.33UF J
C8242	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8250	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8251	24567334	PLASTIC FILM, 50V 0.33UF J
C8252	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8253	24669339	ELECTROLYTIC, 50V 3.3UF M
C8905	24073002	ELECTROLYTIC CE04P 6.3V 220UF M 3A
C8911	24503047	PLASTIC FILM, 63V 0.33UF J
C8912	24503047	PLASTIC FILM, 63V 0.33UF J
C8921	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8930	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8931	24503047	PLASTIC FILM, 63V 0.33UF J
C8932	24073152	ELECTROLYTIC CE04P 16V 330UF M 3A
C8933	24073069	ELECTROLYTIC CE04P 35V 220UF M 3A
C8940	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8941	24503047	PLASTIC FILM, 63V 0.33UF J
C8942	24073152	ELECTROLYTIC CE04P 16V 330UF M 3A
C8943	24073069	ELECTROLYTIC CE04P 35V 220UF M 3A
CA81	24109183	CERAMIC CHIP, 50V B 18000PF K
CA82	24109183	CERAMIC CHIP, 50V B 18000PF K
CA83	24109102	CERAMIC CHIP, 50V B 1000PF K
CA84	24109183	CERAMIC CHIP, 50V B 18000PF K
CA85	24109183	CERAMIC CHIP, 50V B 18000PF K
CA86	24109183	CERAMIC CHIP, 50V B 18000PF K
CA87	24109183	CERAMIC CHIP, 50V B 18000PF K
CA88	24109102	CERAMIC CHIP, 50V B 1000PF K
CA89	24109183	CERAMIC CHIP, 50V B 18000PF K
CA90	24109183	CERAMIC CHIP, 50V B 18000PF K
CA91	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA92	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA93	24619040	ELEC. CHIP, 16V 10UF M 3A
CA94	24619040	ELEC. CHIP, 16V 10UF M 3A
CA95	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA96	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA97	24105330	CERAMIC CHIP, 50V CH 33PF J
CA98	24105330	CERAMIC CHIP, 50V CH 33PF J
CB01	24794470	ELECTROLYTIC, 16V 47UF M
CB81	24092730	CERAMIC CHIP, 16V B 0.1UF K
CS01	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS02	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS03	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS04	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS05	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS06	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS07	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS08	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS09	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS10	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS11	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS12	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS13	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS14	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS15	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS16	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS17	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS18	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS25	24109103	CERAMIC CHIP, 50V B 0.01UF K
CS26	24794470	ELECTROLYTIC, 16V 47UF M
CS27	24794220	ELECTROLYTIC, 16V 22UF M
CS28	24794100	ELECTROLYTIC, 16V 10UF M
CS29	24794100	ELECTROLYTIC, 16V 10UF M
CS30	24794100	ELECTROLYTIC, 16V 10UF M

Location No.	Parts No.	Description
CV01	24092621	CERAMIC CHIP, 10V B 1UF K
CV02	24092621	CERAMIC CHIP, 10V B 1UF K
CV03	24092621	CERAMIC CHIP, 10V B 1UF K
CV04	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CV05	24092621	CERAMIC CHIP, 10V B 1UF K
CV06	24092621	CERAMIC CHIP, 10V B 1UF K
CV10	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CV11	24092621	CERAMIC CHIP, 10V B 1UF K
CV13	24100104	CERAMIC CHIP, 25V F 0.1UF Z @U802
	24794100	ELECTROLYTIC, 16V 10UF M @U101
CV14	24092621	CERAMIC CHIP, 10V B 1UF K @U101
	24232103	CERAMIC DISC, 50V F 0.01UF Z @U802
CV15	24100104	CERAMIC CHIP, 25V F 0.1UF Z @U802
	24232103	CERAMIC DISC, 50V F 0.01UF Z @U101
CV27	24762471	ELECTROLYTIC, 04G 10V 470UF M
CV29	24763101	ELECTROLYTIC, 16V 100UF M
CV30	24092730	CERAMIC CHIP, 16V B 0.1UF K
CV38	24109102	CERAMIC CHIP, 50V B 1000PF K
CV39	24109102	CERAMIC CHIP, 50V B 1000PF K
CV47	24092621	CERAMIC CHIP, 10V B 1UF K
CV70	24794101	ELECTROLYTIC, 16V 100UF M
CV71	24092621	CERAMIC CHIP, 10V B 1UF K
CV72	24794220	ELECTROLYTIC, 16V 22UF M
CV245	24092621	CERAMIC CHIP, 10V B 1UF K
CV246	24092621	CERAMIC CHIP, 10V B 1UF K
CV247	24092621	CERAMIC CHIP, 10V B 1UF K
CV249	24092621	CERAMIC CHIP, 10V B 1UF K
CV250	24092621	CERAMIC CHIP, 10V B 1UF K
CV251	24092621	CERAMIC CHIP, 10V B 1UF K
CV253	24092621	CERAMIC CHIP, 10V B 1UF K
CV254	24092621	CERAMIC CHIP, 10V B 1UF K
CV255	24092621	CERAMIC CHIP, 10V B 1UF K
CY101	24092441	CERAMIC CHIP, 16V F 1UF Z
CY102	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A
	24794101	ELECTROLYTIC, 16V 100UF M
CY103	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CY104	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY105	24109103	CERAMIC CHIP, 50V B 0.01UF K
	24100102	CERAMIC CHIP, 50V F 1000PF Z
CY106	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY107	24794100	ELECTROLYTIC, 16V 10UF M
CY108	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CY109	24105101	CERAMIC CHIP, 50V CH 100PF J
CY111	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY112	24105181	CERAMIC CHIP, 50V CH 180PF J
CY113	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY114	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY115	24105390	CERAMIC CHIP, 50V CH 39PF J
CY116	24105470	CERAMIC CHIP, 50V CH 47PF J
CY117	24105180	CERAMIC CHIP, 50V CH 18PF J
CY160	24815393	CERAMIC CHIP, 50V B 39000PF K
CY501	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY502	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY504	24109222	CERAMIC CHIP, 50V B 2200PF K
CY505	24105120	CERAMIC CHIP, 50V CH 12PF J
CY506	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY508	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY512	24092463	CERAMIC CHIP, 16V B 0.22UF K
CY513	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY514	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY515	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY516	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY517	24092731	CERAMIC CHIP, 16V B 1UF K
CY524	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY525	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY526	24092730	CERAMIC CHIP, 16V B 0.1UF K

Location No.	Parts No.	Description
CY538	24761102	ELECTROLYTIC CE04G, 6.3V 1000UF M
CY539	24794471	ELECTROLYTIC, 16V 470UF M
CY540	24794471	ELECTROLYTIC, 16V 470UF M
CY541	24761102	ELECTROLYTIC CE04G, 6.3V 1000UF M
CY582	24105101	CERAMIC CHIP, 50V CH 100PF J
RESISTORS		
R010	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R150	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
R151	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
R152	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R173	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R174	24011273	CHIP, 1/20W 27K OHM J
R264	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R265	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R266	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R286	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R287	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R288	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R347	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R348	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R601	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R602	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R603	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
R604	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
R609	24011563	CHIP, METAL FILM, 1/20W 56K OHM J
R610	24011223	CHIP, 1/20W 22K OHM J
R611	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R612	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R613	24011223	CHIP, 1/20W 22K OHM J
R614	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R615	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R616	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R621	24011391	CHIP, 1/20W 390 OHM J
R622	24011391	CHIP, 1/20W 390 OHM J
R626	24011223	CHIP, 1/20W 22K OHM J
R627	24011223	CHIP, 1/20W 22K OHM J
R661	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R662	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
R663	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R665	24011223	CHIP, 1/20W 22K OHM J
R666	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R667	24011223	CHIP, 1/20W 22K OHM J
R668	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R671	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R672	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
R673	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R674	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R676	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R677	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R681	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R682	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R683	24011223	CHIP, 1/20W 22K OHM J
R684	24011223	CHIP, 1/20W 22K OHM J
R687	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R688	24011224	CHIP, METAL FILM, 1/20W 220K OHM J
R693	24000445	CHIP JUMPER, 1608TYPE
R697	24553561	OXIDE METAL FILM, 1W 560 OHM J
R698	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R699	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R810	24568479	CERAMIC COVERED, 7W 4.7 OHM J
R811	24007061	CERAMIC COVERED, 2W 1.8 OHM K
R840	24552562	OXIDE METAL FILM, 1/2W 5.6K OHM J
R841	24366102	CARBON FILM, 1/6W 1K OHM J
R842	24376563	CARB0N FILM, 1/2W 56K OHM J
R843	24376563	CARB0N FILM, 1/2W 56K OHM J

Location No.	Parts No.	Description
R844	24366103	CARBON FILM, 1/6W 10K OHM J
R845	24366102	CARBON FILM, 1/6W 1K OHM J
R846	24366471	CARBON FILM, 1/6W 470 OHM J
R847	24366473	CARBON FILM, 1/6W 47K OHM J
R848	24366102	CARBON FILM, 1/6W 1K OHM J
R849	24552470	OXIDE METAL FILM, 1/2W 47 OHM J
R850	24366103	CARBON FILM, 1/6W 10K OHM J
R860	24382101	OXIDE METAL FILM, 1W 100 OHM J
R861	24383333	OXIDE METAL FILM, 2W 33K OHM J
R862	24019463	METAL PLATE RK99 2W R22 J
R863	24019461	METAL PLATE, 2W 0.15 OHM J
R864	24321828	METAL FILM, 1/2W 0.82 OHM J
R865	24381221	OXIDE METAL FILM, 1/2W 220 OHM J
R866	24366681	CARBON FILM, 1/6W 680 OHM J
R867	24366152	CARBON FILM, 1/6W 1.5K OHM J
R868	24555473	METAL OXIDE FILM B 3W 47K J
R869	24366152	CARBON FILM, 1/6W 1.5K OHM J
R870	24366154	CARBON FILM, 1/6W 150K OHM J
R881	24366222	CARBON FILM, 1/6W 2.2K OHM J
R882	24366471	CARBON FILM, 1/6W 470 OHM J
R885	24366102	CARBON FILM, 1/6W 1K OHM J
R886	24000525	METAL FILM, 1/4W 4.7K OHM F
R887	24367683	CARBON FILM, 1/6W 68K OHM G
R888	24000525	METAL FILM, 1/4W 4.7K OHM F
R889	24383222	OXIDE METAL FILM, 2W 2.2K OHM J
R891	24555331	OXIDE METAL FILM, 3W 330 OHM J
R892	24555331	OXIDE METAL FILM, 3W 330 OHM J
⚠ R899	24005014	METAL FILM, 1W 8.2M OHM J
R8200	24367390	CARBON FILM 1/6W 390 G
R8210	24000147	METAL FILM, 1/4W 470 OHM F
R8211	24000219	METAL FILM 1/4W 10 F
R8220	24367390	CARBON FILM 1/6W 390 G
R8222	24367820	CARBON FILM, 1/6W 82 OHM G
R8240	24000366	METAL FILM, 1/4W 2.2K OHM F
R8241	24000360	METAL FILM, 1/4W 1.2K OHM F
R8242	24367101	CARBON FILM, 1/6W 100 OHM G
R8250	24000145	METAL FILM, 1/4W 330 OHM F
R8251	24000145	METAL FILM, 1/4W 330 OHM F
R8252	24367392	CARBON FILM, 1/6W 3.9K OHM G
R8902	24366333	CARBON FILM, 1/6W 33K OHM J
R8903	24366333	CARBON FILM, 1/6W 33K OHM J
R8904	24366472	CARBON FILM, 1/6W 4.7K OHM J
R8905	24366681	CARBON FILM, 1/6W 680 OHM J
R8908	24366104	CARBON FILM, 1/6W 100K OHM J
R8910	24366472	CARBON FILM, 1/6W 4.7K OHM J
R8911	24366103	CARBON FILM, 1/6W 10K OHM J
R8912	24366223	CARBON FILM, 1/6W 22K OHM J
R8913	24366334	CARBON FILM, 1/6W 330K OHM J
R8914	24366223	CARBON FILM, 1/6W 22K OHM J
R8915	24366102	CARBON FILM, 1/6W 1K OHM J
R8931	24367123	CARBON FILM, 1/6W 12K OHM G
R8932	24367152	CARBON FILM, 1/6W 1.5K OHM G
R8934	24367472	CARBON FILM, 1/6W 4.7K OHM G
R8941	24367123	CARBON FILM, 1/6W 12K OHM G
R8942	24367152	CARBON FILM, 1/6W 1.5K OHM G
R8944	24367472	CARBON FILM, 1/6W 4.7K OHM G
R8950	24366103	CARBON FILM, 1/6W 10K OHM J
R8951	24366103	CARBON FILM, 1/6W 10K OHM J
RA71	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RA72	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J
RA73	24011273	CHIP, 1/20W 27K OHM J
RA75	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RA76	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J
RA77	24011114	CHIP, METAL FILM, 1/20W 110K OHM J
RA78	24000445	CHIP JUMPER, 1608TYPE
RA79	24000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
RA81	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA82	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA84	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA85	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA86	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA87	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA89	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA90	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA91	24011470	CHIP, METAL FILM, 1/20W 47 OHM J
RA92	24011470	CHIP, METAL FILM, 1/20W 47 OHM J
RA93	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA94	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA95	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RB15	24366471	CARBON FILM, 1/6W 470 OHM J
RB19	24366470	CARBON FILM, 1/6W 47 OHM J
RB81	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RB82	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RB83	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB84	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB87	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB88	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB89	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB90	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB92	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB93	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS01	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS02	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS04	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS05	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS06	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS07	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS08	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS09	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS10	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS11	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS12	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS13	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS14	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS15	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS16	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS17	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS18	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS21	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS22	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS23	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS24	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS27	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS28	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS29	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
RS30	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RS31	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RS32	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS33	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS34	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RS35	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS36	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS37	24011223	CHIP, 1/20W 22K OHM J
RS38	24011223	CHIP, 1/20W 22K OHM J
RV001	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV002	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV003	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV004	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV005	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV006	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV007	24011102	CHIP, METAL FILM, 1/20W 1K OHM J

Location No.	Parts No.	Description
RV008	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV009	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV01	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV06	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV07	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV08	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV09	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV10	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV11	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV12	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV14	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV15	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV19	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV20	24366750	CARBON FILM, 1/6W 75 OHM J
RV21	24366750	CARBON FILM, 1/6W 75 OHM J
	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV22	24366750	CARBON FILM, 1/6W 75 OHM J
	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV23	24366101	CARBON FILM, 1/6W 100 OHM J
	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV24	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV32	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV33	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV34	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV35	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV36	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV37	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV38	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV40	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV41	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV42	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV43	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV61	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV85	24366471	CARBON FILM, 1/6W 470 OHM J
RV86	24366471	CARBON FILM, 1/6W 470 OHM J
RV89	24011680	CHIP, METAL FILM, 1/20W 68 OHM J
RV147	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV148	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV323	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV324	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV325	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV330	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV331	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV332	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV333	24011181	CHIP, METAL FILM, 1/20W 180 OHM J
RV334	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV335	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RV346	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY101	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY102	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RY103	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY104	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY105	24011821	CHIP, 1/20W 820 OHM J
RY106	24000445	CHIP JUMPER, 1608TYPE
RY107	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY109	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY110	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY160	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RY161	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY501	24011303	CHIP, METAL FILM, 1/20W 30K OHM J
RY502	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY504	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY505	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RY507	24011102	CHIP, METAL FILM, 1/20W 1K OHM J

Location No.	Parts No.	Description
RY508	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY509	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY510	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY511	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY512	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY513	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY516	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY517	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY518	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY519	24000445	CHIP JUMPER, 1608TYPE
RY520	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY521	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY523	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY524	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY525	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY526	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY527	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY528	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY529	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY530	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY531	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY532	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY533	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY534	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY535	24011330	CHIP, 1/20W 33 OHM J
RY536	24011330	CHIP, 1/20W 33 OHM J
RY541	24011392	CHIP, 1/20W 3.9K OHM J
RY542	24011392	CHIP, 1/20W 3.9K OHM J
RY543	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY545	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY548	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY550	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RY551	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RY552	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY560	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY561	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RY573	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY575	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY576	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RY578	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY579	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY580	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY582	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY583	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY584	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY585	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY586	24011330	CHIP, 1/20W 33 OHM J
RY587	24011330	CHIP, 1/20W 33 OHM J
RY588	24011330	CHIP, 1/20W 33 OHM J
RY589	24000445	CHIP JUMPER, 1608TYPE
RY590	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY591	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY592	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY593	24011330	CHIP, 1/20W 33 OHM J
RY594	24011330	CHIP, 1/20W 33 OHM J
RY595	24011330	CHIP, 1/20W 33 OHM J
RY596	24000445	CHIP JUMPER, 1608TYPE
COIL & TRANSFORMERS		
L101	23289845	COIL, PEAKING, TRF4680AT
L103	23289844	COIL, PEAKING, TRF4470AT
L840	23280019	COIL, PEAKING, TRF4330AZ
L841	23103145	FERRITE CHOKE, TEM2011AA
L861	23103145	FERRITE CHOKE, TEM2011AA
L862	23103775	COIL, FERRITE CHOKE, TEM2014
L881	23103145	FERRITE CHOKE, TEM2011AA

Location No.	Parts No.	Description
L882	23103145	FERRITE CHOKE, TEM2011AA
L883	23103145	FERRITE CHOKE, TEM2011AA
L884	23103145	FERRITE CHOKE, TEM2011AA
L885	23103145	FERRITE CHOKE, TEM2011AA
L886	23103145	FERRITE CHOKE, TEM2011AA
L888	23248321	COIL, CHOKE 15X23H 22MMH 4.2A TLN3462AH
L890	23248292	COIL, CHOKE, TLN3499GH
L891	23248292	COIL, CHOKE, TLN3499GH
L892	23248292	COIL, CHOKE, TLN3499GH
L893	23248213	COIL, CHOKE, TLN3481AH
L895	23248247	COIL, CHOKE, TLN3499AH
L896	23280019	COIL, PEAKING, TRF4330AZ
L8210	23280019	COIL, PEAKING, TRF4330AZ
L8211	23248358	COIL, CHOKE EI22 100MMHK TLN3540AH
L8213	23248213	COIL, CHOKE, TLN3481AH
L8930	23248292	COIL, CHOKE, TLN3499GH
L8931	23248292	COIL, CHOKE, TLN3499GH
L8940	23248292	COIL, CHOKE, TLN3499GH
L8941	23248292	COIL, CHOKE, TLN3499GH
LV13	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LV20	23238705	COIL, PEAKING, TRF4560AJ
LY012	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LY100	23246223	COIL, CHIP INDUCTOR, TRF4330CG
LY101	23248296	COIL, CHOKE
	23103827	INDUCTOR, BEAD, TEM2120M
LY102	23238506	COIL, PEAKING, TRF4229AJ
	23103827	INDUCTOR, BEAD, TEM2120M
LY103	23238506	COIL, PEAKING, TRF4229AJ @UA06
	23103230	INDUCTOR, BEAD, TEM2134AD @U802
LY104	23246219	COIL, CHIP INDUCTOR, TRF4150CG
LY105	23246222	COIL, CHIP INDUCTOR, TRF4270CG
LY112	23103230	INDUCTOR, BEAD, TEM2134AD
LY501	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LY503	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
⚠ T801	23211765	COIL, LF LH35V TRF3239AH
⚠ T802	23211776	COIL, LINE FILTER 37X44H 6.8MH TRF3197AH
⚠ T840	23217431	TRANSFORMER, CONVERTER, TPW3425AH
⚠ T862	23217682	TRANSFORMER, CONVERTER TPW3553AS
SEMICONDUCTORS		
Q151	23205005	TRANSISTOR, KTA2014Y
Q152	23205006	TRANSISTOR, KTC4075Y
Q172	23205006	TRANSISTOR, KTC4075Y
Q601	23009603	IC, BTL AUDIO AMP AN7580
Q612	23205005	TRANSISTOR, KTA2014Y
Q613	23205006	TRANSISTOR, KTC4075Y
Q614	23205236	TRANSISTOR, NPN R1=4.7K R2=47K KRC106S (SOT-23)
Q661	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q662	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q663	23906596	IC, BA4558
Q664	23205246	TRANSISTOR, PNP R1=R2=47K KRA104S (SOT-23)
Q681	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q682	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q801	23135037	IC, STR-F6268S
Q840	23906133	IC, MIP280
⚠ Q841	23000823	IC, PHOTO COUPLER, TLP421F(GR)
⚠ Q842	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q845	23314965	TRANSISTOR, KTC3198 Y
Q846	23314965	TRANSISTOR, KTC3198 Y
Q847	23314965	TRANSISTOR, KTC3198 Y
⚠ Q862	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q881	23000701	IC, NJM431L
Q8200	23085050	IC, +12V 2% REG. TO220 SI-3120J(LF1101)
Q8210	23000806	IC, SI-8033SS
Q8220	23904163	IC, SI-3090CA
Q8240	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5

Location No.	Parts No.	Description
Q8250	23000469	IC, PQ5EV3
Q8251	70200563	IC, RESET VS=2.9V PST9129 PST9129
Q8901	23314965	TRANSISTOR, KTC3198 Y
Q8902	23314965	TRANSISTOR, KTC3198 Y
Q8904	23314962	TRANSISTOR, KTA1266 Y
Q8911	23314965	TRANSISTOR, KTC3198 Y
Q8912	23314965	TRANSISTOR, KTC3198 Y
Q8930	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5
Q8940	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5
Q8950	23119747	IC, OPE AMP, TA75358P
QA91	23900992	SENSOR, TOUCH QT2C01-AS QT2C01-AS
QA92	23900992	SENSOR, TOUCH QT2C01-AS QT2C01-AS
QA93	23000283	IC, R1121N
QB81	23314204	TRANSISTOR, 2SC2412K,Q
QB83	70200849	IC, DUAL COMPARATOR BA10393F
QB84	23314204	TRANSISTOR, 2SC2412K,Q
QS01	23009916	IC, A S/W SSOP-36A MM1631AJBE
QS02	23314993	TRANSISTOR, 2SC4081 Q
QS03	23314993	TRANSISTOR, 2SC4081 Q
QS04	23314993	TRANSISTOR, 2SC4081 Q
QS05	23205246	TRANSISTOR, PNP R1=R2=47K KRA104S (SOT-23)
QS06	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
QS07	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
QV004	23314993	TRANSISTOR, 2SC4081 Q
QV005	23314993	TRANSISTOR, 2SC4081 Q
QV006	23314993	TRANSISTOR, 2SC4081 Q
QV007	23314993	TRANSISTOR, 2SC4081 Q
QV008	23314993	TRANSISTOR, 2SC4081 Q
QV009	23205014	TRANSISTOR, 2SC4667-O
QV01	23009940	IC, VIDEO S/W MM1630AQ
QV48	23114528	TRANSISTOR, 2SC1740S
QV91	23314994	TRANSISTOR, 2SA1576A106
QY100	23906515	IC, TC90A45F
QY101	23314993	TRANSISTOR, 2SC4081 Q
QY102	23314993	TRANSISTOR, 2SC4081 Q
QY103	23314994	TRANSISTOR, 2SA1576A106
QY160	23205006	TRANSISTOR, KTC4075Y
QY501	23009929	IC, VCD NTSC SOP30 TA1383FG(DRY,EL)
QY502	23205014	TRANSISTOR, 2SC4667-O
QY503	23314994	TRANSISTOR, 2SA1576A106
QY504	23314994	TRANSISTOR, 2SA1576A106
QY506	23314993	TRANSISTOR, 2SC4081 Q
QY507	23314993	TRANSISTOR, 2SC4081 Q
QY508	23314993	TRANSISTOR, 2SC4081 Q
QY509	23314993	TRANSISTOR, 2SC4081 Q
QY511	23314994	TRANSISTOR, 2SA1576A106
QY512	23314994	TRANSISTOR, 2SA1576A106
QY513	23314994	TRANSISTOR, 2SA1576A106
QY514	23314994	TRANSISTOR, 2SA1576A106
QY515	23314994	TRANSISTOR, 2SA1576A106
QY516	23314994	TRANSISTOR, 2SA1576A106
QY518	23314993	TRANSISTOR, 2SC4081 Q
QY522	23314993	TRANSISTOR, 2SC4081 Q
D601	23316231	DIODE, 1SS355
D602	23316231	DIODE, 1SS355
D603	23316231	DIODE, 1SS355
D604	23316231	DIODE, 1SS355
D605	23316231	DIODE, 1SS355
D606	23316231	DIODE, 1SS355
D607	23316231	DIODE, 1SS355
D608	23316231	DIODE, 1SS355
D609	23316231	DIODE, 1SS355
D611	23316231	DIODE, 1SS355
D612	23316231	DIODE, 1SS355
D613	23316231	DIODE, 1SS355
D614	23316231	DIODE, 1SS355

Location No.	Parts No.	Description
D615	23316231	DIODE, 1SS355
D616	23316231	DIODE, 1SS355
D617	23316231	DIODE, 1SS355
D628	23316597	DIODE, ZENER, MA8120-M
D801	23316393	DIODE, VRM=600V IO=6A SIP D5SB60, 4009 F05
D840	23357207	DIODE, LN1WBA60
D841	23316673	DIODE, ZENER, MTZJ5.6C
D842	23316665	DIODE, ZENER, MTZJ4.7A
D843	23357366	DIODE, FR105-B5
D844	23316673	DIODE, ZENER, MTZJ5.6C
D845	23118859	DIODE, 1SS133
D846	23118633	DIODE, ZENER, RD3.0ES B2
D847	23118633	DIODE, ZENER, RD3.0ES B2
D848	23118859	DIODE, 1SS133
D849	23118859	DIODE, 1SS133
D850	23118513	DI0DE, ZENER, RD11ESA B3
D861	23316672	DIODE, ZENER, MTZJ5.6B
D863	23118859	DIODE, 1SS133
D864	23357366	DIODE, FR105-B5
D865	23118859	DIODE, 1SS133
D866	23316381	DIODE, RU1P
D867	23316754	DIODE, ZENER, MTZJ33B
D883	23316184	DIODE, FML-G12S
D884	23357366	DIODE, FR105-B5
D885	23316714	DIODE, RL2Z
D886	23357042	DIODE, FMX-12S(023-108)
D887	23316768	DIODE, FMB-26L
D888	23357353	DIODE, FML-G22S
D894	23316677	DIODE, ZENER, MTZJ6.8A
D895	23316677	DIODE, ZENER, MTZJ6.8A
D896	23316677	DIODE, ZENER, MTZJ6.8A
D897	23316677	DIODE, ZENER, MTZJ6.8A
D898	23316677	DIODE, ZENER, MTZJ6.8A
⚠ D899	24019485	VARISTOR, TNR10V431K
D8200	23118859	DIODE, 1SS133
D8210	23118213	DIODE, RK44,
D8211	23316666	DIODE, ZENER, MTZJ4.7B
D8902	23118859	DIODE, 1SS133
D8903	23118859	DIODE, 1SS133
D8904	23316673	DIODE, ZENER, MTZJ5.6C
D8905	23316673	DIODE, ZENER, MTZJ5.6C
D8911	23316673	DIODE, ZENER, MTZJ5.6C
D8912	23316673	DIODE, ZENER, MTZJ5.6C
D8913	23316673	DIODE, ZENER, MTZJ5.6C
D8914	23118859	DIODE, 1SS133
D8915	23118859	DIODE, 1SS133
D8922	23118530	DIODE, ZENER, RD5.6ESA B1
D8930	23118859	DIODE, 1SS133
D8931	23118859	DIODE, 1SS133
D8940	23118859	DIODE, 1SS133
D8941	23118859	DIODE, 1SS133
D8950	23118528	DIODE, ZENER, RD5.6ESA B3
D8951	23118528	DIODE, ZENER, RD5.6ESA B3
DB03	23358522	DIODE, LED, SIR-56SB3F
DB81	23358584	LED, LAMP RED SML-810UTT86 SML-811UTT86
DB82	23358585	LED, LAMP GREEN SML-810MTT86 SML-810MTT86
DV07	23316577	DIODE, ZENER, MA8068-M
DV14	23316577	DIODE, ZENER, MA8068-M
KB01	23000852	IC, REMOTE PHOTO RECEIVER, PIC-37043TE2

MISCELLANEOUS

B112	23059129	PIECE COVER
BB10	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB11	23713013	CONNECTOR, SOCKET, B-B 16P 1.5
BB20	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB21	23713013	CONNECTOR, SOCKET, B-B 16P 1.5

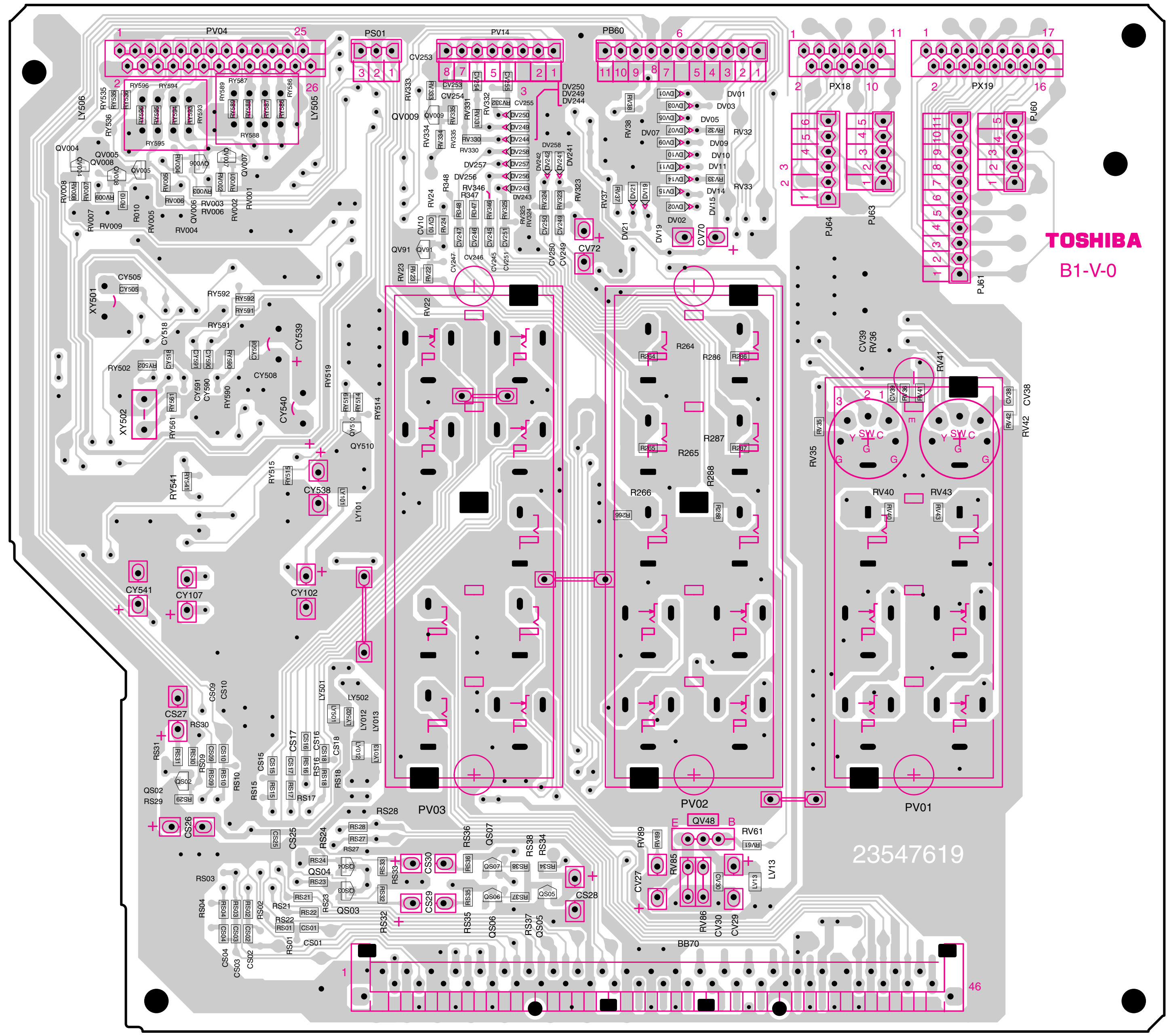
Location No.	Parts No.	Description
BB70	23713309	PLUG , TAC-A46P-B1
BB71	23903159	SOCKET, TAC A46X B1 TAC-A46X-B1
⚠ F801	23144684	FUSE, CARTRIDGE 5X20 125V 8.0A
F801A	23165433	FUSE HOLDER, 5.2 SOC
⚠ F8210	23144709	FUSE, AXIAL 125V 1.5A
⚠ F840	23144704	FUSE, AXIAL 125V 200MA
⚠ F860	23144714	FUSE, AXIAL 125V 4.0A
⚠ F880	23144714	FUSE, AXIAL 125V 4.0A
⚠ F881	23144706	FUSE, AXIAL 125V 500MA
⚠ F882	23144714	FUSE, AXIAL 125V 4.0A
⚠ F883	23144715	FUSE, AXIAL 125V 5.0A
⚠ F884	23144715	FUSE, AXIAL 125V 5.0A
⚠ F899	23144691	FUSE, CARTRIDGE 5X20 250V 2.0A
F899A	23165433	FUSE HOLDER, 5.2 SOC
G101	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
G102	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
GJ105	24000445	CHIP JUMPER, 1608TYPE
GR103	24000445	CHIP JUMPER, 1608TYPE
⚠ H002	23148083	IF MODULE, US VSD BUFFER 6MTRAP MVUS52A
H003	23124087	ANTENNA SWITCH, RSU135X1, 2I3O BUNPAI US
H003A	23740989	NUT, F-CONNECTOR 2H BS
JR001	24000445	CHIP JUMPER, 1608TYPE
JR002	24000445	CHIP JUMPER, 1608TYPE
JR003	24000445	CHIP JUMPER, 1608TYPE
JR004	24000445	CHIP JUMPER, 1608TYPE
JR005	24000445	CHIP JUMPER, 1608TYPE
JR006	24000445	CHIP JUMPER, 1608TYPE
JR007	24000445	CHIP JUMPER, 1608TYPE
JR008	24000445	CHIP JUMPER, 1608TYPE
JR009	24000445	CHIP JUMPER, 1608TYPE
JR010	24000445	CHIP JUMPER, 1608TYPE
JR011	24000445	CHIP JUMPER, 1608TYPE
JR012	24000445	CHIP JUMPER, 1608TYPE
JR013	24000445	CHIP JUMPER, 1608TYPE
JR014	24000445	CHIP JUMPER, 1608TYPE
M802A	23103839	FERRITE CORE, TFE1012
M811A	23103778	FERRITE CORE, TFE1008
M905A	23103778	FERRITE CORE, TFE1008
M905E	23103840	FERRITE CORE, TFE1013
MA01	23389219	CABLE, FFC P1.25-15-98 P1.25-15-98
MB91A	23103840	FERRITE CORE, TFE1013
MV01	23368868	CABLE, LVDS 300MM LVDS
MV01A	23103840	FERRITE CORE, TFE1013
MV04	23389218	CABLE, FFC P1.25-26-140 P1.25-16-140
MX18	23389220	CABLE, FFC P1.25-11-365 P1.25-11-365
MX19	23389221	CABLE, FFC P1.25-17-410 P1.25-17-410
P105	23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
⚠ P800	23368013	CONNECTOR, PLUG, 2P 11.88MM W VT-JST
P800A	23103840	FERRITE CORE, TFE1013
⚠ P801	23372117	POWER CORD, U/C 125V10A HSV 5 CMC-02P 5
P805	23164965	CONNECTOR, PLUG 4P, W-P3504-#02
P811A	23368274	PLUG, 2P 3.96MM VH-JST VH
P891	23367068	CONNECTOR, PLUG 8P, 2.5MM G JST-EH B8B-EH-F1-TV4
P892	23367073	CONNECTOR, PLUG 13P
P901	23368577	CONNECTOR, PLUG, 3P 2.5MM G JST-EH, B3B-EH-F1-TV4
P902A	23164563	CONNECTOR, PLUG 3P
P903	23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
P906	23367070	PLUG , NP 2.5MM G JST-EH B10B-EH-F1A
P907	23367072	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B12B-EH-F1A
PA01	23713240	CONNECTOR, 15FE-BT-VK-N JST 15FE-BT-VK-N
PB22	23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
PJ60	23368579	CONNECTOR, PLUG 5P, 2.5MM G JST-EH, B5B-EH-F1-TV4
PJ61	23367071	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B11B-EH-F1A
PJ63	23368579	CONNECTOR, PLUG 5P, 2.5MM G JST-EH, B5B-EH-F1-TV4
PJ64	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4
PV01	23023132	JACK, PIN 2S6P SMK LAP5030-0111GC

Location No.	Parts No.	Description
PV02	23365819	JACK, 1S3P
	23023205	JACK, PIN 10P SMK KARI2
PV03	23023210	JACK, PIN 9P SMK LAP5030-0402F
PV04	23713282	CONNECTOR, 26FE-ST-VK-N 26FE-ST-VK-N
PV13	23367069	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B9B-EH-F1A
PV14	23368587	CONNECTOR, PLUG, 8P 2.5MM W EH-JST, S8B-EH
PX18	23713270	CONNECTOR, 11FE-ST-VK-N 11FE-ST-VK-N
PX19	23713110	CONNECTOR, FE-ST-VK-N 17P JST FE-ST-VK-N 17PR
Q893B	70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
Q894B	70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
⚠ S810	70145484	SWITCH, SPVF11
SK01 #1	23405385	OPTICALENGINE, PJ-TB25-52S (Incl.SK03-SK08)
#2	23405386	OPTICALENGINE, PJ-TB25-62S (Incl.SK03-SK08)
SK02	23587201	SERVICE KIT, SHP66 LAMP UNIT SHP66 LAMP UNIT
SK03	23122468	POWER UNIT, RPB-4434ZA RPB-4434ZA
SK04	23762354	PC BOARD ASSY, SENSOR UNIT PD1823 SENSOR UNIT
SK05	23762355	PC BOARD ASSY, MOTOR UNIT PD1824 MTR UNIT
SK06	23125920	FAN, D09A-12PS6 01B(K) D09A-12PS6 01B(K)
SK07	23125919	FAN, D07F-12SS1801B(EX) 07F-12SS1801B(EX)
SK08	23144199	BREAKER, US-603UXTLQE-H US-603UXTLQE-H
⚠ SR81	23146574	RELAY, DLS5D1-O(M) 0.15W
⚠ SR82	23146564	RELAY, DC12V, TV5, DG-3
W661	23351244	SPEAKER, SPBOX(L) 8-OHM 20W SPK-1455AM
W662	23351245	SPEAKER, SPBOX(R) 8-OHM 20W SPK-1456AM
XY501	23153961	CRYSTAL, 3.58MHZ
XY502	23153721	CERAMIC RESONATOR, 503KHZ
ZB22B	23103840	FERRITE CORE, TFE1013
PC BOARD ASSEMBLIES		
∗ U101	23762474	PC BOARD ASSY, IF AUD ACIN PU PD1775B
∗ U103	23762475	PC BOARD ASSY, BACK AV PU PD1774B
∗ U802	23762085	PC BOARD ASSY, MAIN POWER PU PD1773A-1
∗ UA02	23762087	PC BOARD ASSY, REMORT SENSOR PU PD1773A-3
∗ UA03	23762088	PC BOARD ASSY, DOOR SWITCH PU PD1773A-4
∗ UA06	23761341	PC BD ASSY, FRONT KEY 57HL83 PU PD1503
∗ UD02 #1	23148134	PC BOARD ASSY, SCALER 52HMX84 B910PD1870D1
∗ #2	23148135	PC BOARD ASSY, SCALER 62HMX84 B910PD1870E1
∗ UV02	23148056	SCAN CONVERTER MODUL, 03DVI-2 MHDM02
∗ UV03	23762086	PC BOARD ASSY, FRONT AV PU PD1773A-2
TUNER		
H001	23321482	TUNER, US181CH IIC PH 5V PANA ELA52LX5
⚠ HY01	23321480	TUNER, TIF US IIC PH 181CH 5V ENG36A18GF
ACCESSORIES		
A701 #1	23067700	CARTON, CARTON 52HMX84
#2	23067701	CARTON, CARTON 62HMX84
A703 #1	23946771	PACKING, TOP PACKING
#2	23946772	PACKING, TOP PACKING
A708 #1	23946768	PACKING, BOTTOM PACKING
#2	23946769	PACKING, BOTTOM PACKING
A709 #1	23067694	CARTON, BASE TRAY
#2	23067695	CARTON, BASE TRAY
A710 #1	23946774	PACKING, SUPPORT POST
#2	23946775	PACKING, SUPPORT POST
⚠ K912	23306504	REMOCON HAND UNIT IR, CTVUSA CT-90164
⚠ Y101E	23566348	OWNERS MANUAL, ENGLISH 52HMX84
⚠ Y101F	23566349	OWNERS MANUAL, FRENCH 52HMX84
Y102	23589650	SHEET, IMPORTANT NOTES NOTES
CABINET PARTS		
⚠ A025	23532769	COVER, LAMP TUNNEL PURCHASE ASY
⚠ A026	23428292	DOOR, DOOR LAMP PURCHASE ASSY
⚠ A101	23532766	COVER, BASE PURCHASE ASSY
⚠ A201 #1	23532859	COVER, BEZEL PURCHASE ASM 52HMX84
⚠ #2	23532861	COVER, BEZEL PURCHASE ASM 62HMX84

Location No.		Parts No.	Description
A204	#1	23532684	COVER, BACK COVER
	#2	23532763	COVER, BACK COVER
⚠ A205	#1	23532782	COVER, BACKCOVER PURCHASE ASSY
⚠	#2	23532784	COVER, BACKCOVER PURCHASE ASSY
A215		23940083	PIECE, PIECE ENCLOSURE,DLE
A220		23451976	PUSH CATCH, CLICK
⚠ A222	#1	23532884	COVER, PEDESTAL ASSY 52HMX84
⚠	#2	23532882	COVER, PEDESTAL PURCHASE ASSEY 62HMX84
A225		23940084	PIECE, STRIKER
A227	#1	23433316	DECORATIVE, CONTROL PANEL TRIM 52HMX84
	#2	23433317	DECORATIVE, CONTROL PANEL TRIM 62HMX84
A231	#2	23940100	PIECE, PIECE SIDE RIGHT
A232	#2	23940099	PIECE, PIECE SIDE LEFT
⚠ A271	#1	23405372	OPTICAL ENGINE, PJ-TB25-52 (Incl. SK02-SK08)
⚠	#2	23405379	OPTICAL ENGINE, PJ-TB25-62 (Incl. SK02-SK08)
A278		23084267	BRACKET, SPEED CLIP
A305		23717197	SCREW, THUMB SCREW
A306		23717198	SCREW, THUMB SCREW RETAINER
A329	#1	23940118	PIECE, SCREEN FRAME DECO PIECE 52HMX84
	#2	23940120	PIECE, SCREEN FRAME DECO PIECE 62HMX84
A333		23450837	PANEL, A/V MOUNT PURCHASE ASSY
A401		23532768	COVER, REAR COVER PURCHASE ASY
A421		23532738	COVER, REAR COVER,DLE
A422		23084265	BRACKET, VENT, REAR DLE
A516		23717192	SCREW, SCREW, AV BOARD
A721		23943628	PLYETHLENE COVERING 46GM88T
K501	#1	23311071	SCREEN, 52K4ML LENTICULAR SHEET
	#2	23311080	SCREEN, 62K4M LENTICULAR SHEET
K502	#1	23311072	SCREEN, 52K4M FRESNEL SHEET
	#2	23311081	SCREEN, 62K4MF FRESNEL SHEET
K601	#1	23405371	MIRROR, 52C4M3 1197/578*612*3
	#2	23405383	MIRROR, 62C4M3 1426/695*725*3

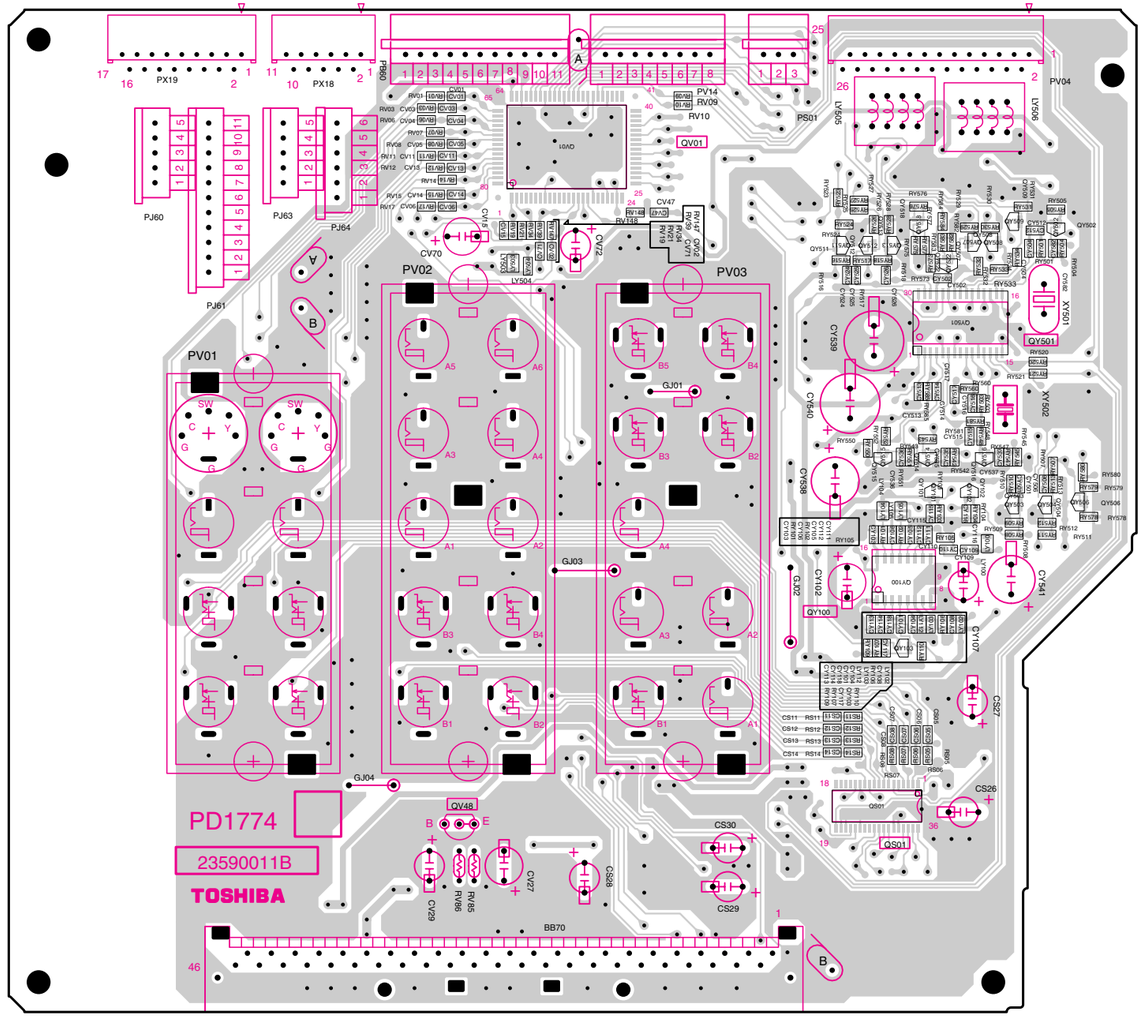
BACK AV BOARD PD1774B (U103)

BOTTOM (FOIL) SIDE



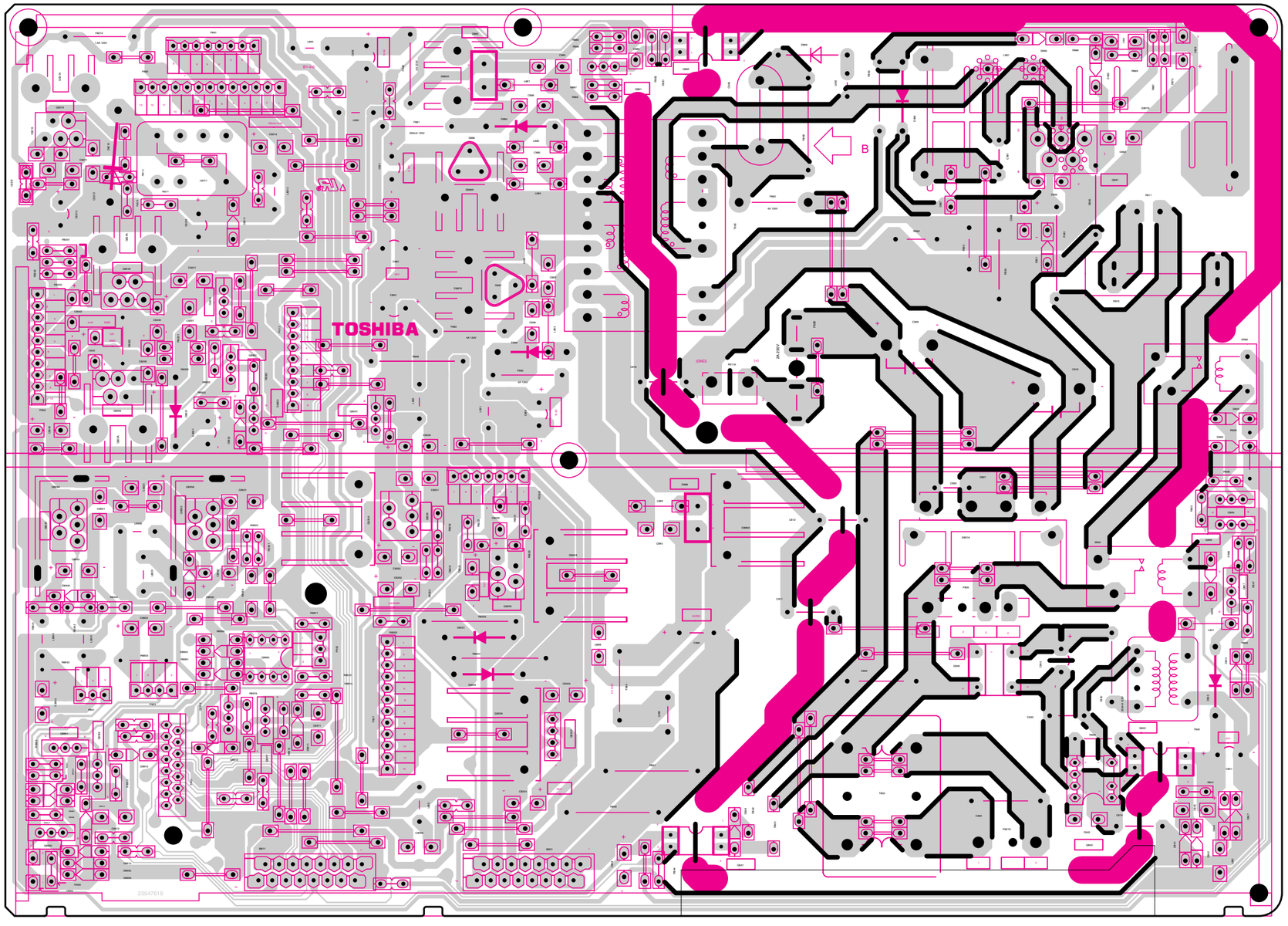
BACK AV BOARD PD1774B (U103)

TOP (COMPONENT) SIDE



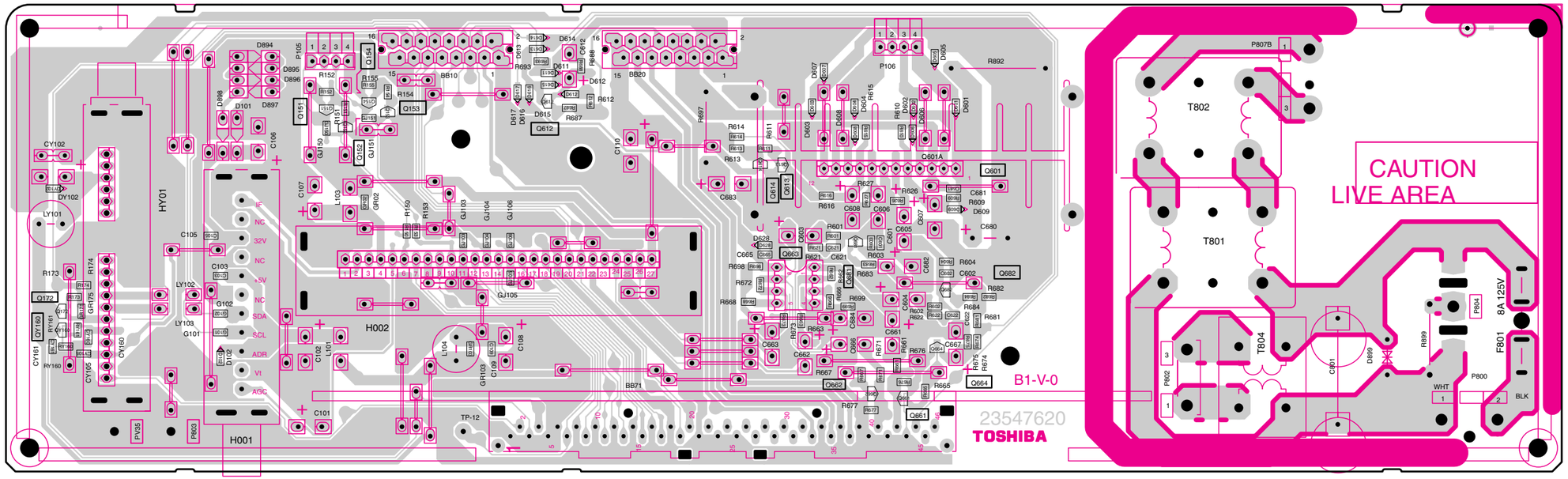
MAIN POWER BOARD PD1773A-1 (U802)

BOTTOM (FOIL) SIDE



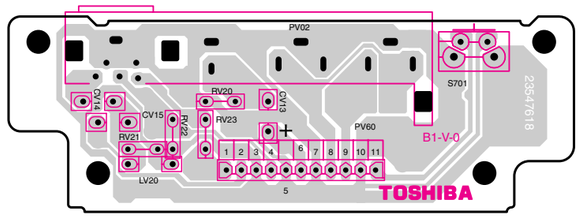
IF AUDIO ACIN BOARD PD1775B (U101)

BOTTOM (FOIL) SIDE



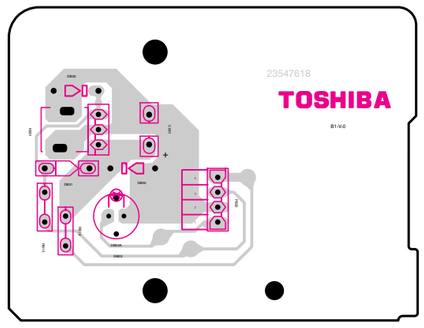
FRONT AV BOARD PD1773A-2 (UV03)

BOTTOM (FOIL) SIDE



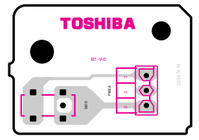
REMOTE SENSOR BOARD PD1773A-3 (UA02)

BOTTOM (FOIL) SIDE



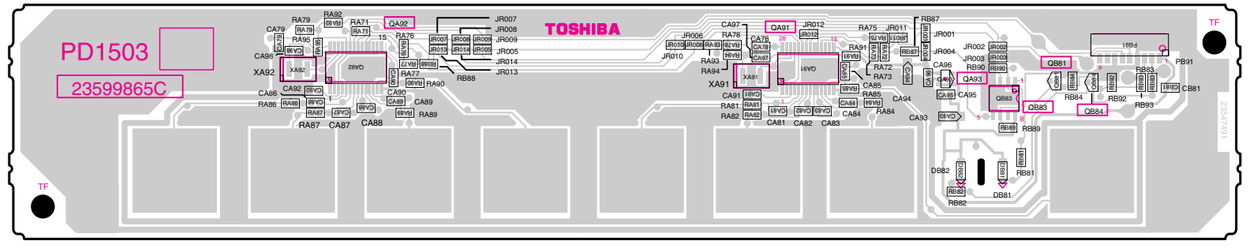
DOOR SWITCH BOARD PD1773A-4 (UA03)

BOTTOM (FOIL) SIDE



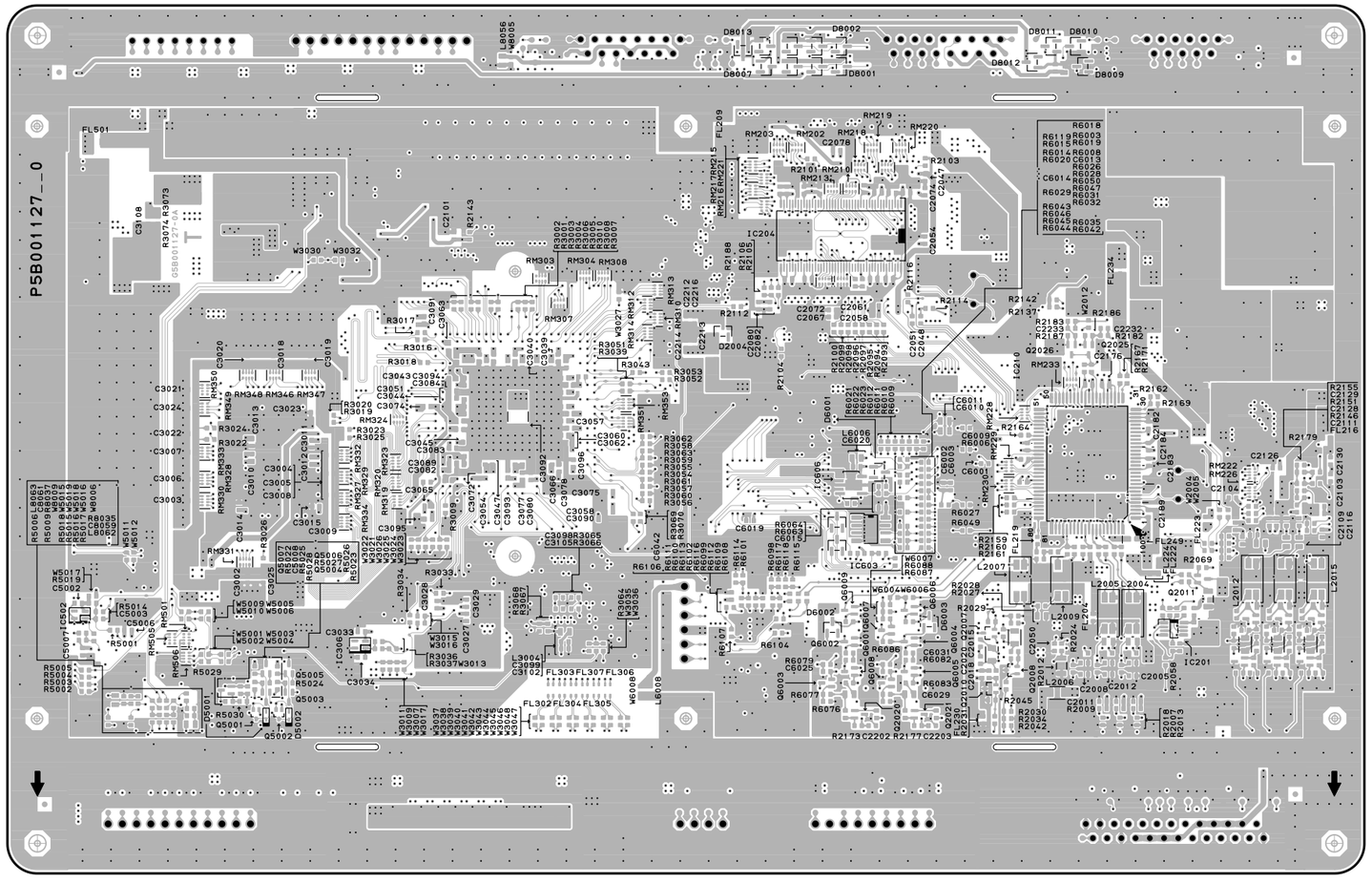
FRONT KEY BOARD PD1503 (UA06)

TOP (COMPONENT) SIDE



OPSS SCALER BOARD (52HMX84:PD1870D1 62HMX84:PD1870E1) (UD02)

BOTTOM (FOIL) SIDE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R2103
R2101
RM210
RM213
RM217
RM216
RM221
FL209
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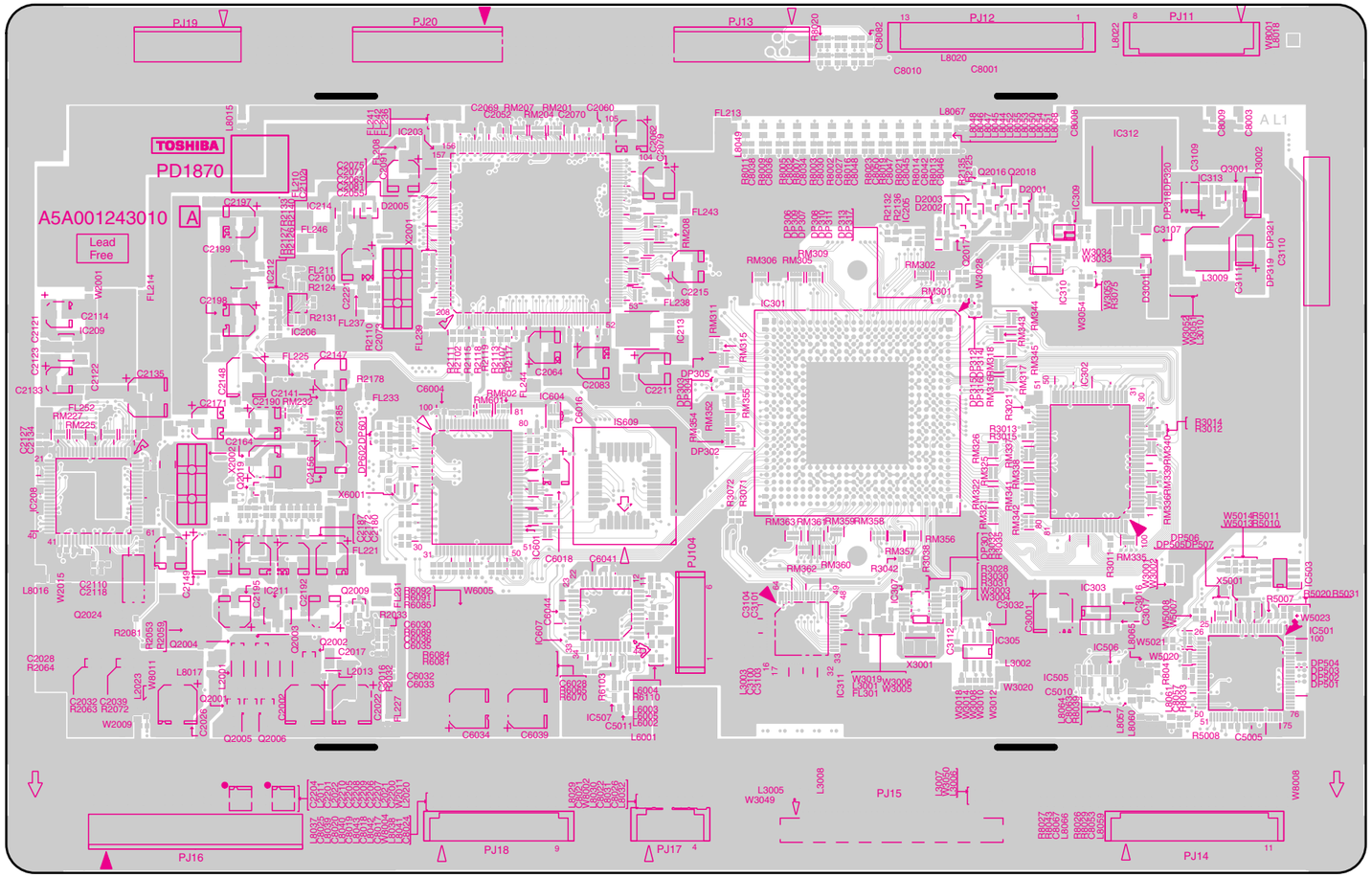
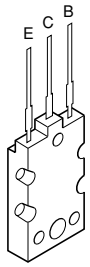
OPSS SCALER BOARD (52HMX84:PD1870D1 62HMX84:PD1870E1) (UD02)

TOP (COMPONENT) SIDE

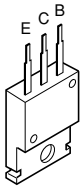


TERMINAL VIEW OF TRANSISTORS

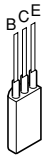
① 2SC5144
2SC5859



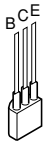
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



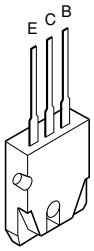
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



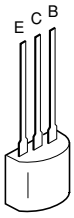
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



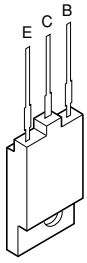
⑤ 2SA1788



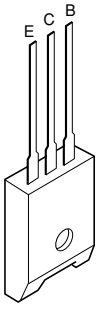
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



SCHEMATIC DIAGRAM

MODEL : 52HMX84/62HMX84

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt
   1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt
   10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with "⚠" have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE

BACK_AV
- (1/5) [SHEET-1/5] 1/52
- (AUDIO_SELECT) [SHEET-2/5] 2/52
- (VIDEO_SELECT1) [SHEET-3/5] 3/52
- (VIDEO_SELECT2) [SHEET-4/5] 4/52
- (WRIGHT_CONNECTION) [SHEET-5/5] 5/52

FRONT_AV 6/52

FRONT_KEY
- (TOUCH_CONTROL_PANEL) 7/52

IF_AUDIO
- (IF/AUDIO) [SHEET-1/4] 8/52
- (IF/TIF) [SHEET-2/4] 9/52
- (SOUND) [SHEET-3/4] 10/52
- (AC-IN) [SHEET-4/4] 11/52

MAIN_POWER 12/52

OPSS_SCALER
- (AV_CONNECTOR) [SHEET-200] 13/52
- (AV_LPF) [SHEET-201] 14/52
- (DVCD2_LPF) [SHEET-202] 15/52
- (DVCD1_LPF) [SHEET-203] 16/52
- (3CH_ADH_HD) [SHEET-204] 17/52
- (3CH_ADC) [SHEET-205] 18/52
- (VIDEO_DECODER_CSYNCIN) [SHEET-206] 19/52
- (VIDEO_DECODER) [SHEET-207] 20/52
- (VIDEO_DECODER_POWER) [SHEET-208] 21/52
- (GENESIS-1) [SHEET-209] 22/52
- (GENESIS-2) [SHEET-210] 23/52
- (SDRAM) [SHEET-211] 24/52
- (GENESIS_POWER) [SHEET-212] 25/52
- (GENESIS_IIC) [SHEET-213] 26/52
- (SCALER_DIGITAL_INPUT) [SHEET-300] 27/52
- (SCALER_CAPTURE_INPUT) [SHEET-301] 28/52
- (DDR_SDRAM) [SHEET-302] 29/52
- (SCALER_PLL) [SHEET-303] 30/52
- (OSD_FOR_NORTH_AMERICA) [SHEET-304] 31/52
- (IIC) [SHEET-305] 32/52
- (94TB_POWER) [SHEET-306] 33/52
- (LVDS_OUT) [SHEET-307] 34/52
- (POWER-3.3V_2_TO_2.5V_DVCC) [SHEET-308] 35/52
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- (SUB_MICON2) [SHEET-501] 39/52
- (SUB_MICON3) [SHEET-502] 40/52
- (OSD_MICON4) [SHEET-503] 41/52
- (MICON1) [SHEET-600] 42/52
- (MICON2) [SHEET-601] 43/52
- (MICON3) [SHEET-602] 44/52
- (TV_MICON_RESET_I&_FLASH) [SHEET-603] 45/52
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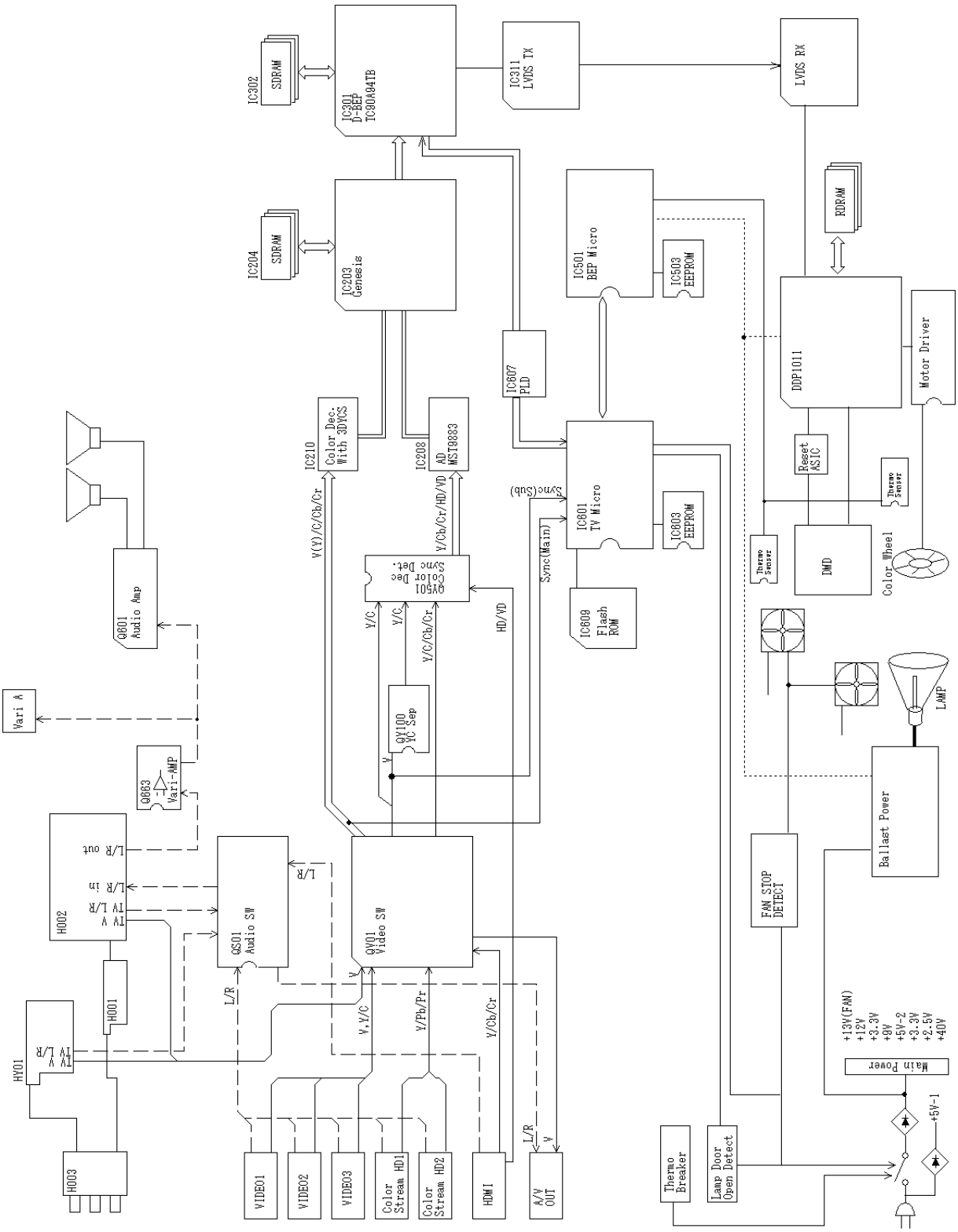
- (CONNECTOR-TV_MICON_POWER_BOARD) [SHEET-802] 50/52
- (CONNECTOR-DLF_I/F) [SHEET-803] 51/52
- (SERVICE_CONNECTOR) [SHEET-804] 52/52

CIRCUIT BLOCK DIAGRAM



Specifications

Note: This model complies with the specifications listed below. Designs and specifications are subject to change without notice. This model may not be compatible with features and/or specifications that may be added in the future.

Television System
NTSC standard

Channel Coverage
VHF: 2 through 13
UHF: 14 through 69
Cable TV: Mid band (A-8 through A-1, A through I)
Super band (J through W)
Hyper band (AA through ZZ, AAA, BBB)
Ultra band (65 through 94, 100 through 125)

Power Source
120 V AC, 60 Hz

Power Consumption
190 W (average)

Audio Power
20 W + 20 W

Speaker Type
Main: Two 4 inches (10 cm) round
Tweeter: Two 1-5/8 inches (4 cm) round

Video/Audio Terminals
S-VIDEO INPUT
Y : 1 V(p-p), 75 ohms, negative sync.
C : 0.286 V(p-p) (burst signal), 75 ohms
VIDEO/AUDIO INPUT
VIDEO: 1 V(p-p), 75 ohms, negative sync.
AUDIO: 150 mV(rms) (30% modulation equivalent, 22 k ohms or greater)
ColorStream® (component video) INPUT
Y : 1V(p-p), 75 ohms
PR: 0.7 V(p-p), 75 ohms
PB: 0.7 V(p-p), 75 ohms
AUDIO: 150 mV(rms), 22 k ohms or greater
VIDEO/AUDIO OUTPUT
VIDEO: 1 V(p-p), 75 ohms, negative sync.
AUDIO: 150 mV(rms) (30% modulation equivalent, 2.2 k ohms or less)
VARIABLE AUDIO OUTPUT
0–300 mV(rms) (30% modulation equivalent, 2.2 k ohms or less)
HDMI INPUT:
HDMI compliant (type A connector)
HDCP compliant
E-EDID* compliant
Suggested scan rates: 1080i, 480p, 480i, 720p
HDMI Audio: 2-channel PCM
32/44.1/48 kHz sampling frequency
16/20/24 bits per sample

Dimensions
52HMX84: Width 58-3/8 inches (1,483 mm)
Height 35-1/16 inches (890 mm)
Depth 15-1/4 inches (387 mm)
62HMX84: Width 67-1/16 inches (1,703 mm)
Height 40-15/16 inches (1,040 mm)
Depth 18-1/4 inches (464 mm)

Mass
52HMX84: 88 lbs (40.0 kg)
62HMX84: 107 lbs (48.5 kg)

Supplied Accessories
Remote Control with 2 size “AA” alkaline batteries
Owner’s Manual (this book)
Important notes sheet

Optional TV Stand
52HMX84: ST5294
62HMX84: ST6294

Operating condition
Temperature: 41°F–95°F (5°C–35°C)

– END –

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

TOSHIBA

FILE NO. 020-200418
REVISED.2

CIRCUIT DIAGRAMS

Projection Television

52HMX84
62HMX84

DOCUMENT CREATED IN JAPAN, Jan., 2005

SCHEMATIC DIAGRAM

MODEL : 52HMX84/62HMX84

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   Mylar capacitor
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- (AUDIO_SELECT) [SHEET-2/5] 2/52
- (VIDEO_SELECT1) [SHEET-3/5] 3/52
- (VIDEO_SELECT2) [SHEET-4/5] 4/52
- (WRIGHT_CONNECTION) [SHEET-5/5] 5/52

FRONT_AV 6/52

FRONT_KEY
- (TOUCH_CONTROL_PANEL) 7/52

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- (IF/TIF) [SHEET-2/4] 9/52
- (SOUND) [SHEET-3/4] 10/52
- (AC-IN) [SHEET-4/4] 11/52

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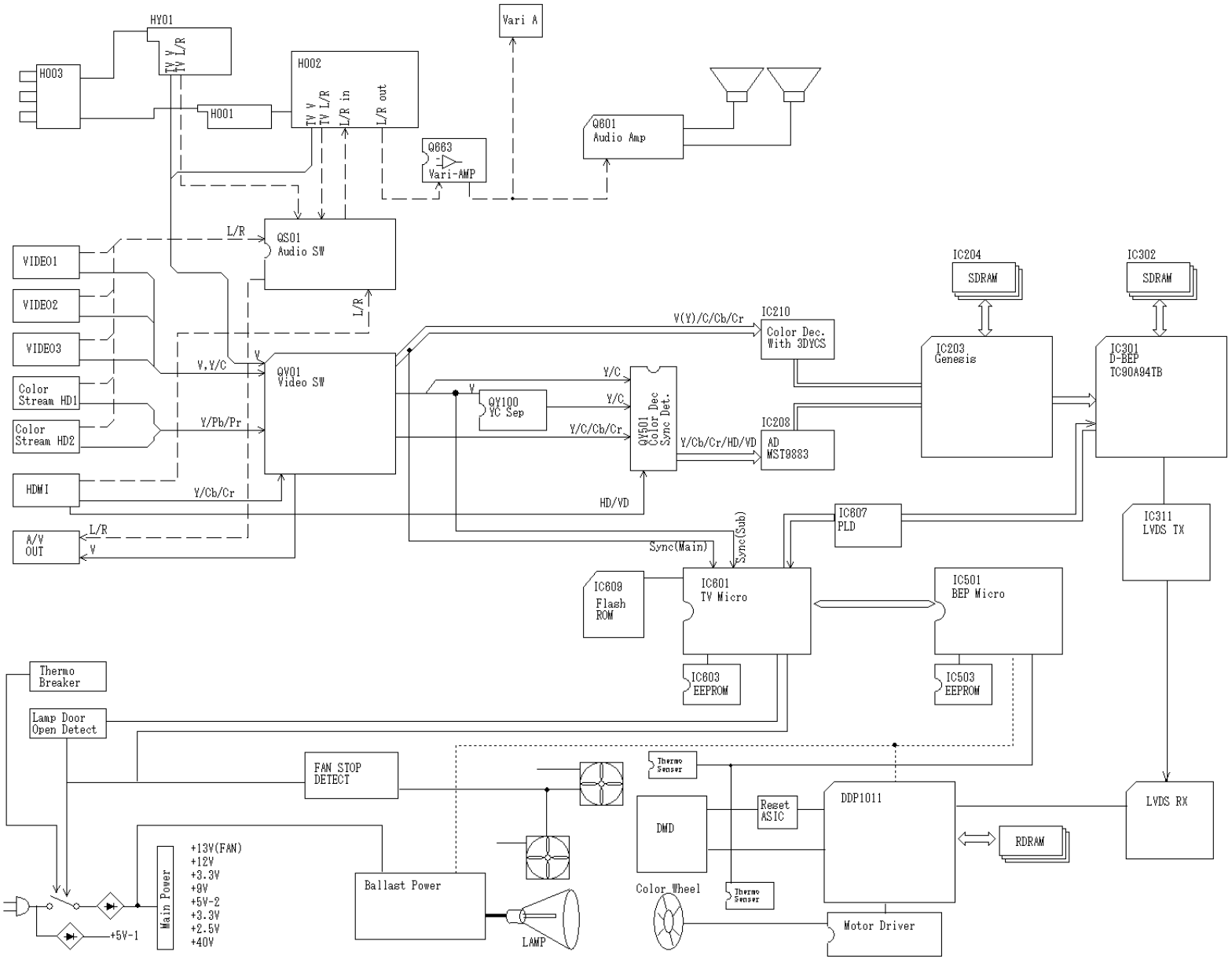
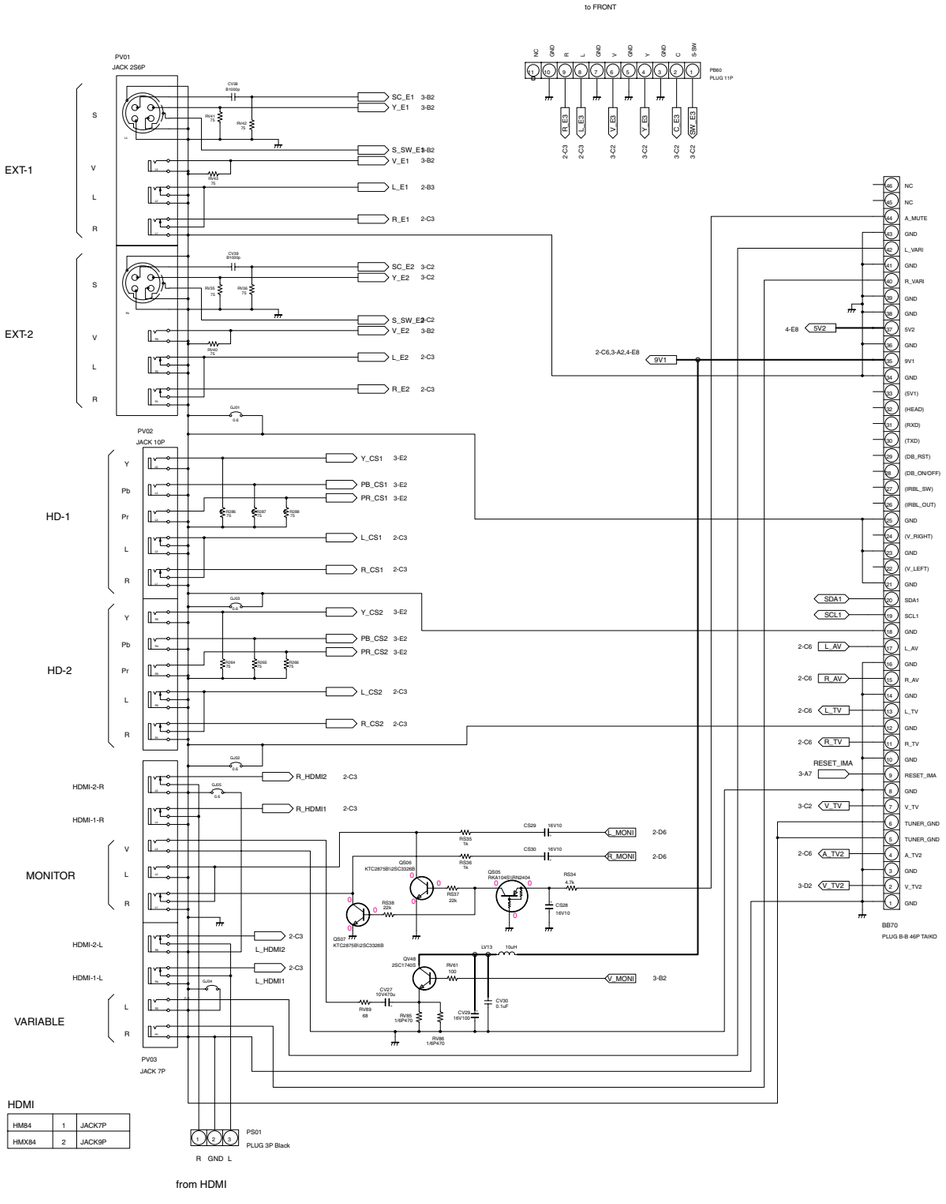
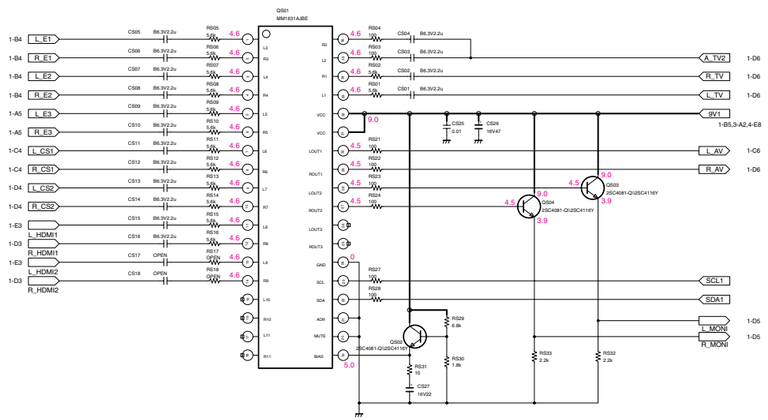
- (SERVICE_CONNECTOR) [SHEET-804] 52/52

CIRCUIT BLOCK DIAGRAM

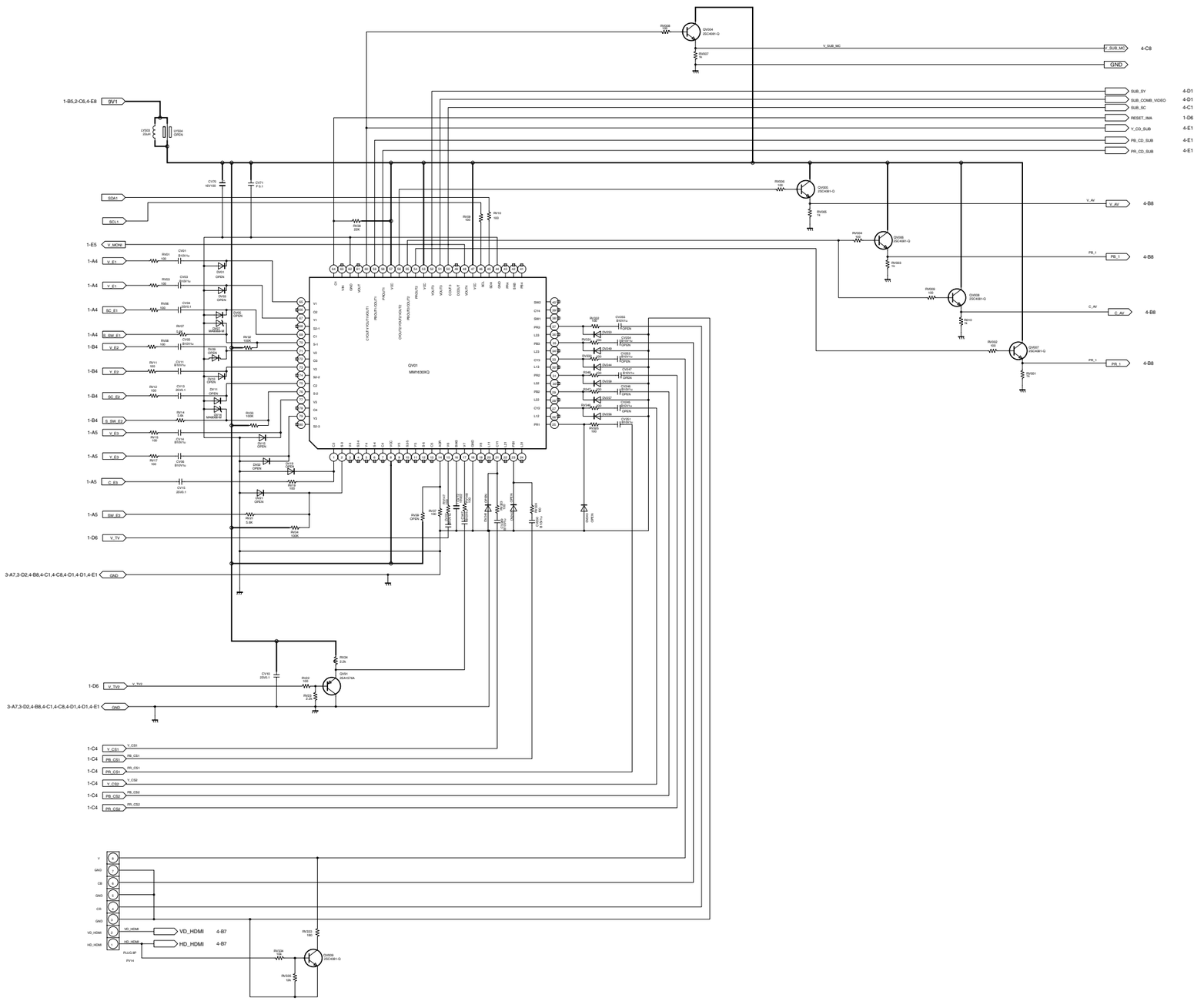




52HMX84/62HMX84
BACK_AV (1/5)
SHEET-1/5

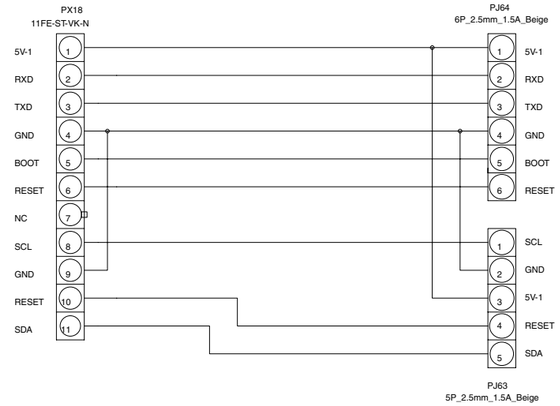


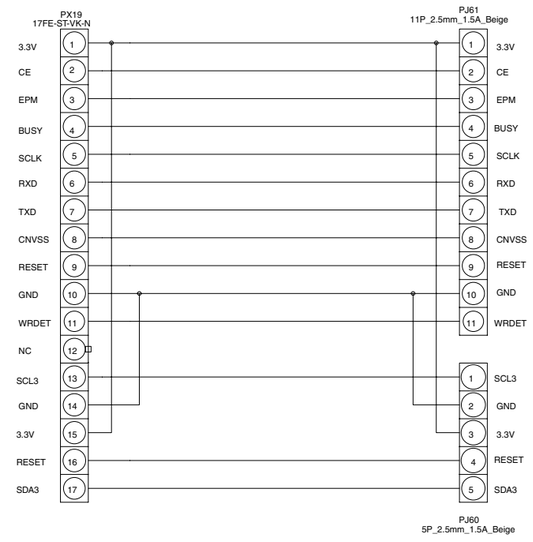
52HMX84/62HMX84
BACK_AV (AUDIO_SELECT)
SHEET-2/5



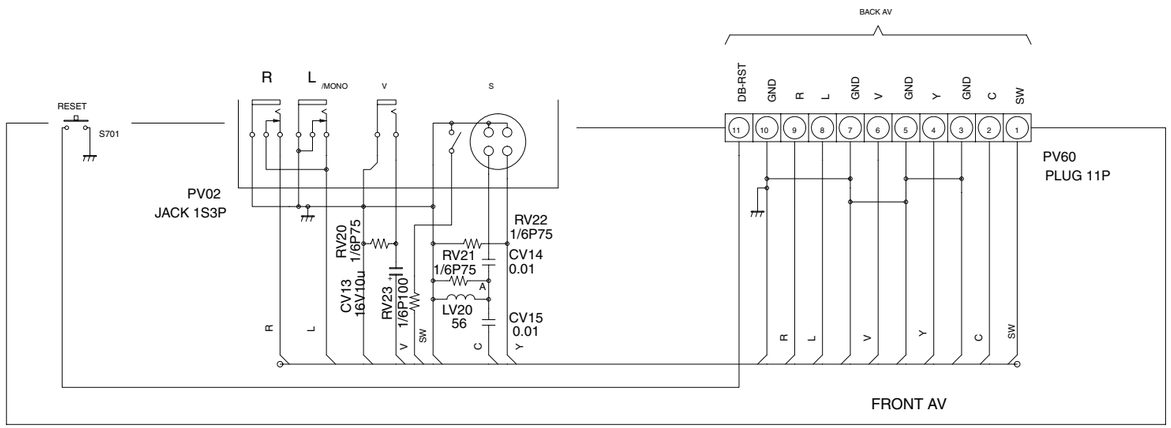
52HMX84/62HMX84
BACK_AV (VIDEO_SELECT1)
SHEET-3/5

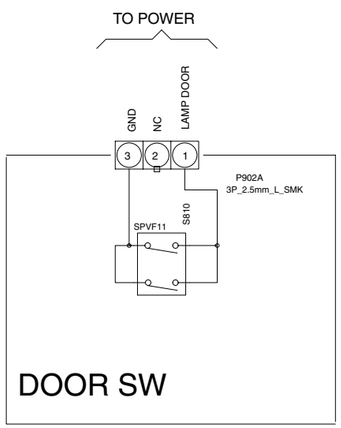
52HMX84/62HMX84
BACK_AV (VIDEO_SELECT2)
SHEET-4/5

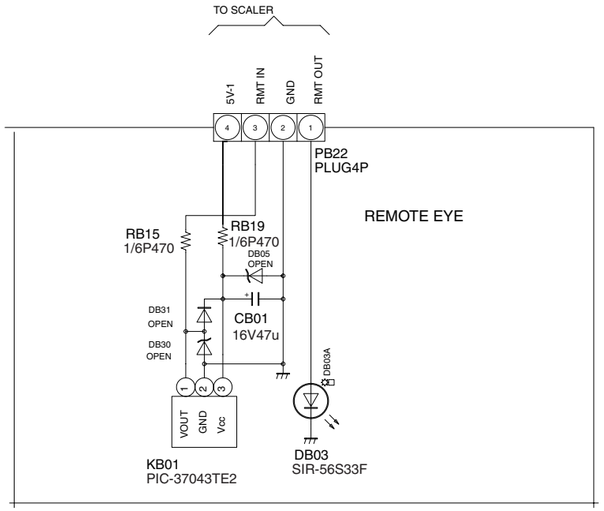




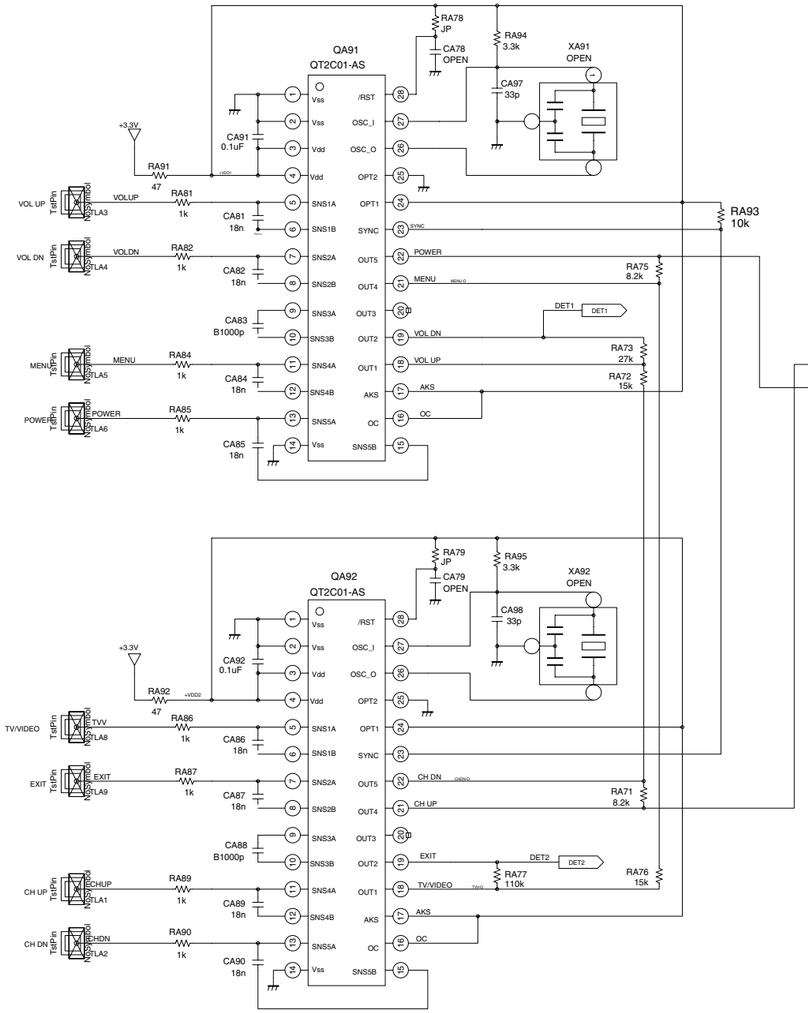
52HMX84/62HMX84
BACK_AV (WRIGHT_CONNECTION)
SHEET-5/5

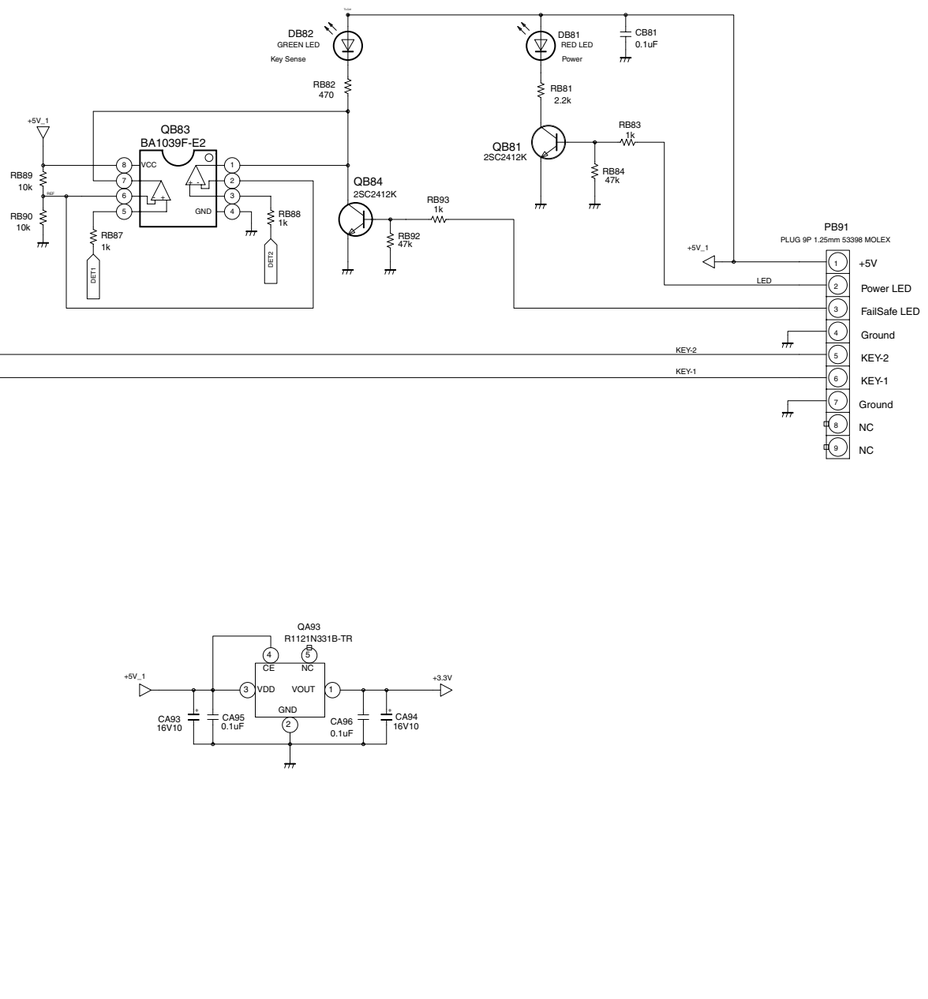




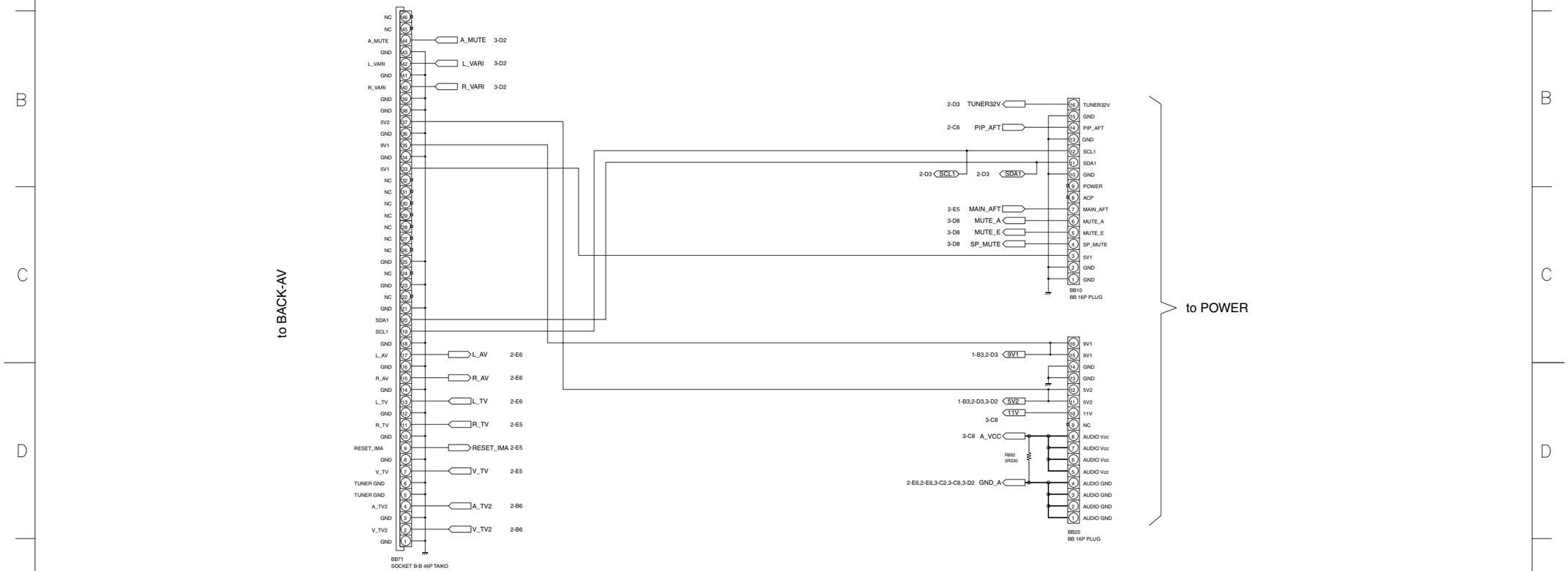


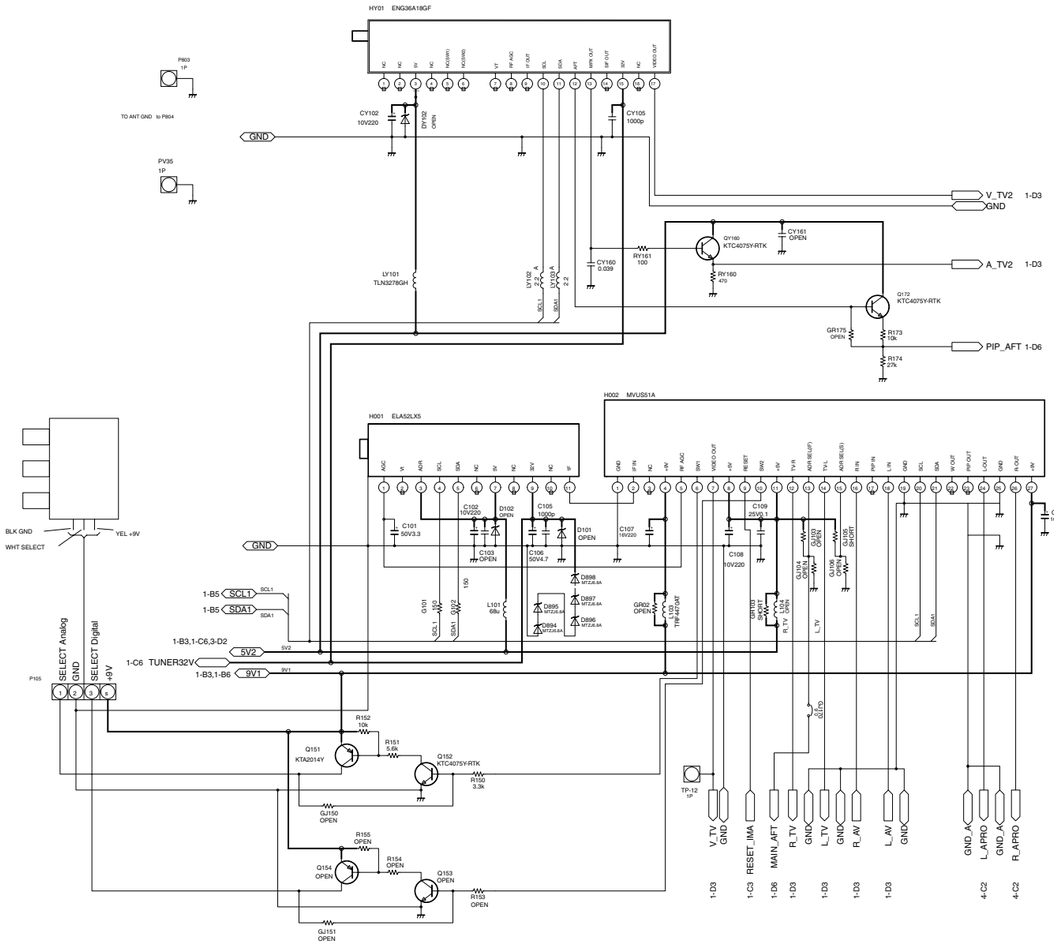
52HMX84/62HMX84
FRONT_AV



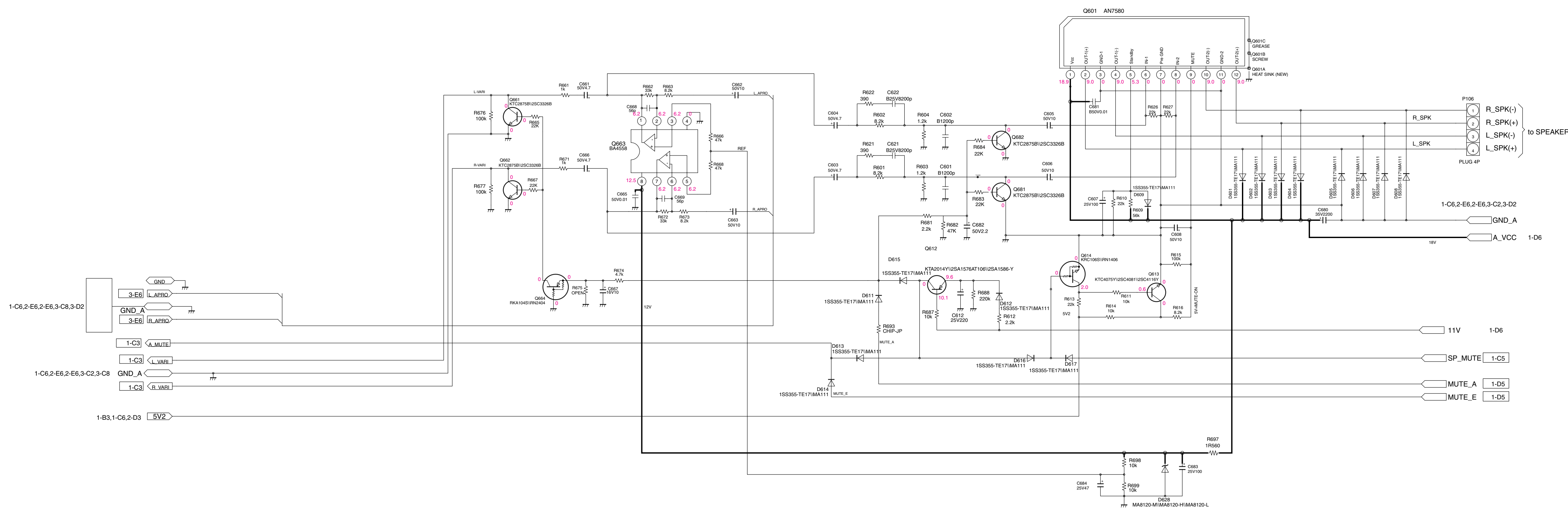


52HMX84/62HMX84
FRONT_KEY (TOUCH_CONTROL_PANEL)

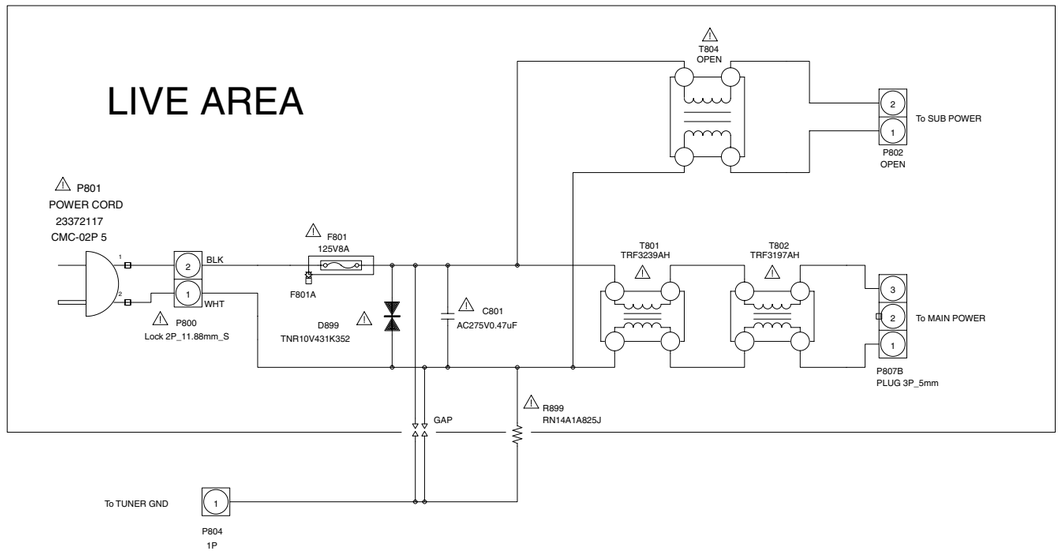

to BACK-AV
NC
NC
A_MUTE
GND
L_VARI
GND
R_VARI
GND
GND
5V2
GND
9V1
GND
5V1
NC
NC
NC
NC
NC
NC
NC
GND
NC
GND
NC
GND
SDA1
SCL1
GND
L_AV
GND
R_AV
GND
L_TV
GND
R_TV
GND
RESET_IMA
GND
V_TV
TUNER GND
TUNER GND
A_TV2
GND
V_TV2
GND
A_MUTE 3-D2
L_VARI 3-D2
R_VARI 3-D2
L_AV 2-E6
R_AV 2-E6
L_TV 2-E6
R_TV 2-E5
RESET_IMA 2-E5
V_TV 2-E5
A_TV2 2-B6
V_TV2 2-B6
BB71
SOCKET B-B 46P TAIKO
2-D3 TUNER32V
2-C6 PIP_AFT
2-D3 SCL1
2-D3 SDAT
2-E5 MAIN_AFT
3-D8 MUTE_A
3-D8 MUTE_E
3-D8 SP_MUTE
TUNER32V
GND
PIP_AFT
GND
SCL1
SDA1
GND
POWER
ACP
MAIN_AFT
MUTE_A
MUTE_E
SP_MUTE
5V1
GND
GND
BB10
BB 16P PLUG
1-B3,2-D3 9V1
1-B3,2-D3,3-D2 5V2
11V
3-C8
3-C8 A_VCC
R892
3R330
2-E6,2-E6,3-C2,3-C8,3-D2 GND_A
9V1
9V1
GND
GND
5V2
5V2
11V
NC
AUDIO Vcc
AUDIO Vcc
AUDIO Vcc
AUDIO Vcc
AUDIO GND
AUDIO GND
AUDIO GND
AUDIO GND
BB20
BB 16P PLUG
to POWER
52HMX84/62HMX84
IF_AUDIO (IF/AUDIO)
SHEET-1/4



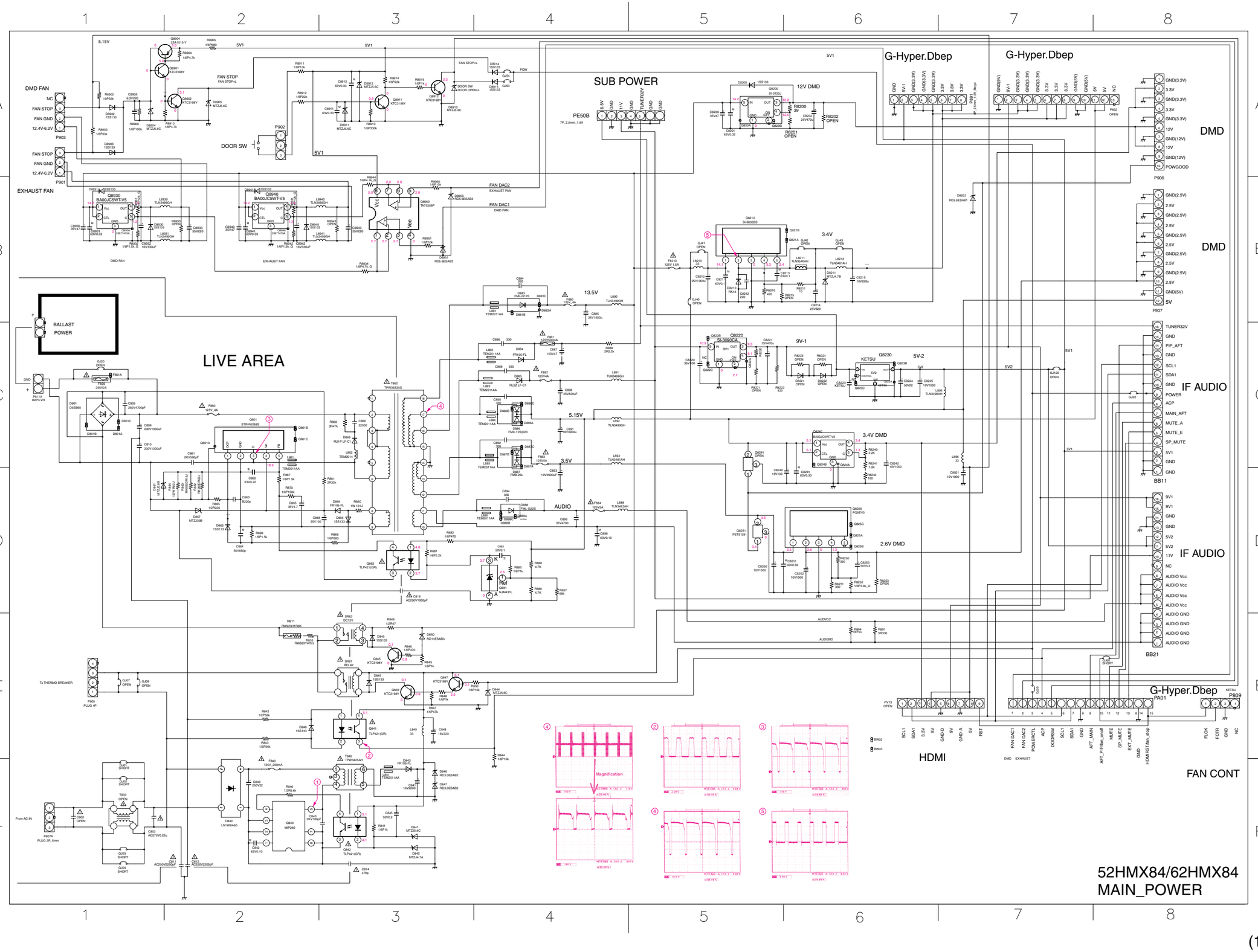
52HMX84/62HMX84
IF_AUDIO (IF/TIF)
SHEET-2/4

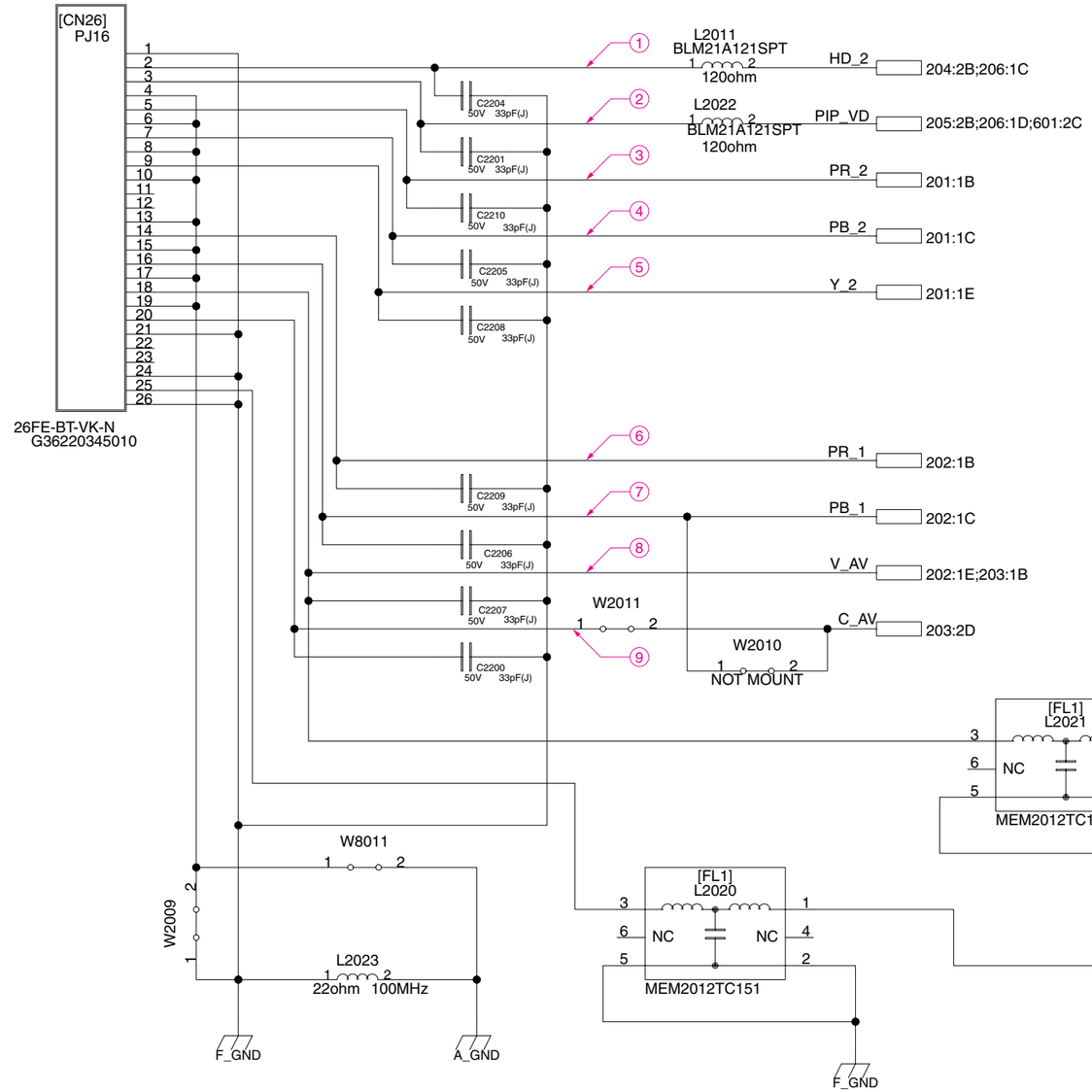

Q601 AN7580
Vcc
OUT-1(+)
GND-1
OUT-1(-)
Standby
IN-1
Pre GND
IN-2
MUTE
OUT2(-)
GND-2
OUT2(+)
Q601C GREASE
Q601B SCREW
Q601A HEAT SINK (NEW)
P106
R_SPK(-)
R_SPK(+)
L_SPK(-)
L_SPK(+)
to SPEAKER
PLUG 4P
R_SPK
L_SPK
1-C6,2-E6,2-E6,3-C2,3-D2
GND_A
A_VCC
1-D6
18V
11V
1-D6
SP_MUTE
1-C5
MUTE_A
1-D5
MUTE_E
1-D5
Q663 BA4558
Q661 KTC2875B\\2SC3326B
Q662 KTC2875B\\2SC3326B
Q664 RKA104S\\RN2404
Q681 KTC2875B\\2SC3326B
Q682 KTC2875B\\2SC3326B
Q612 KTA2014Y\\2SA1576AT106\\2SA1586-Y
Q613 KTC4075Y\\2SC4081\\2SC4116Y
Q614 KRC106S\\RN1406
D628 MA8120-M\\MA8120-H\\MA8120-L
R697 1R560
12V
5V2
5V=MUTE-ON
1-C6,2-E6,2-E6,3-C8,3-D2
GND
3-E6
L_APRO
GND_A
3-E6
R_APRO
1-C3
A_MUTE
1-C3
L_VARI
1-C6,2-E6,2-E6,3-C2,3-C8
GND_A
1-C3
R_VARI
1-B3,1-C6,2-D3
5V2

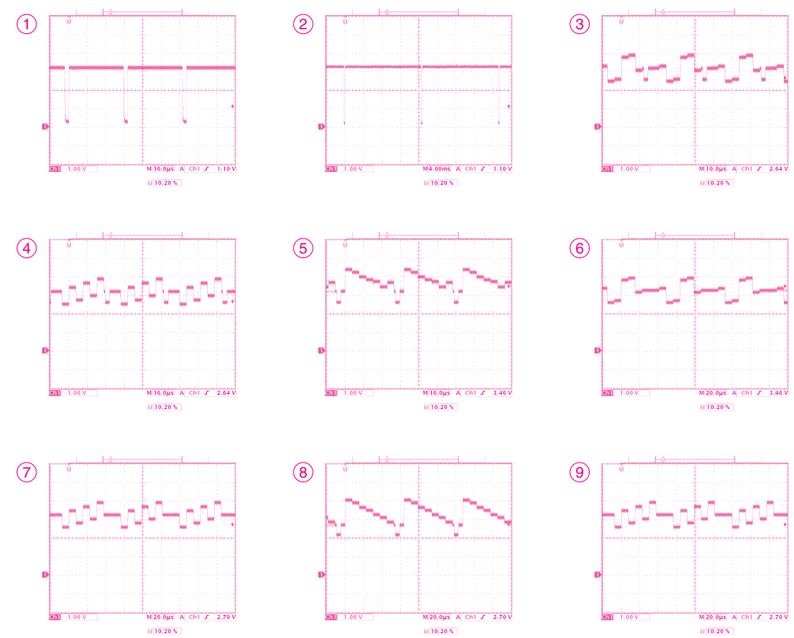
52HMX84/62HMX84
IF_AUDIO (SOUND)
SHEET-3/4



52HMX84/62HMX84
IF_AUDIO (AC-IN)
SHEET-4/4

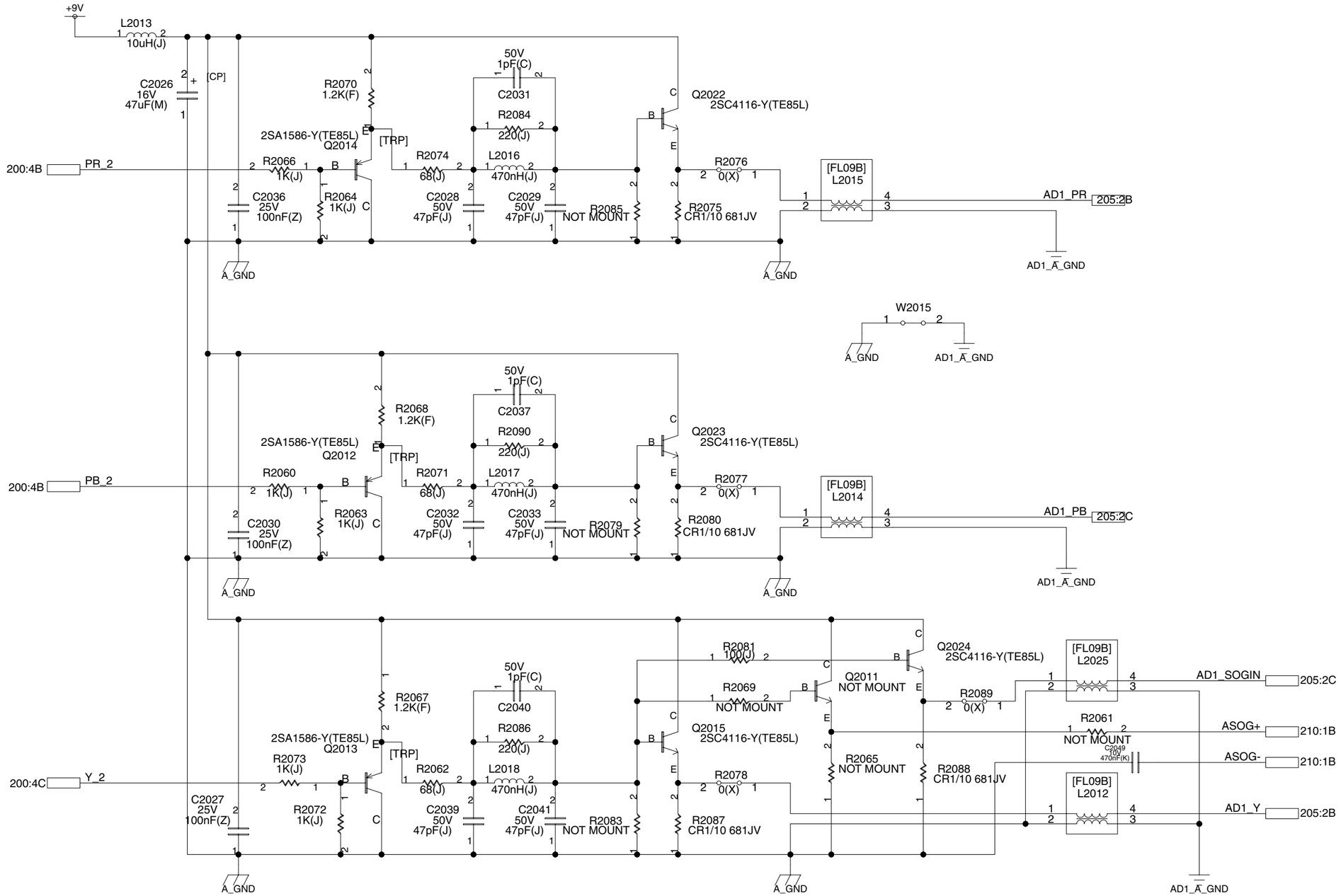

SUB POWER
LIVE AREA
BALLAST POWER
DMD FAN
EXHAUST FAN
DOOR SW
FAN STOP
FAN GND
12.4V-6.2V
FAN DAC2
EXHAUST FAN
FAN DAC1
DMD FAN
PE50B
12V DMD
3.4V DMD
2.6V DMD
G-Hyper.Dbep
DMD
IF AUDIO
HDMI
FAN CONT
AUDIO
5.15V
13.5V
3.5V
5V1
5V2
9V-1
5V-2
3.4V
AUDVCC
AUDGND
To THERMO BREAKER
To AC-IN
52HMX84/62HMX84
MAIN_POWER
(12/52)



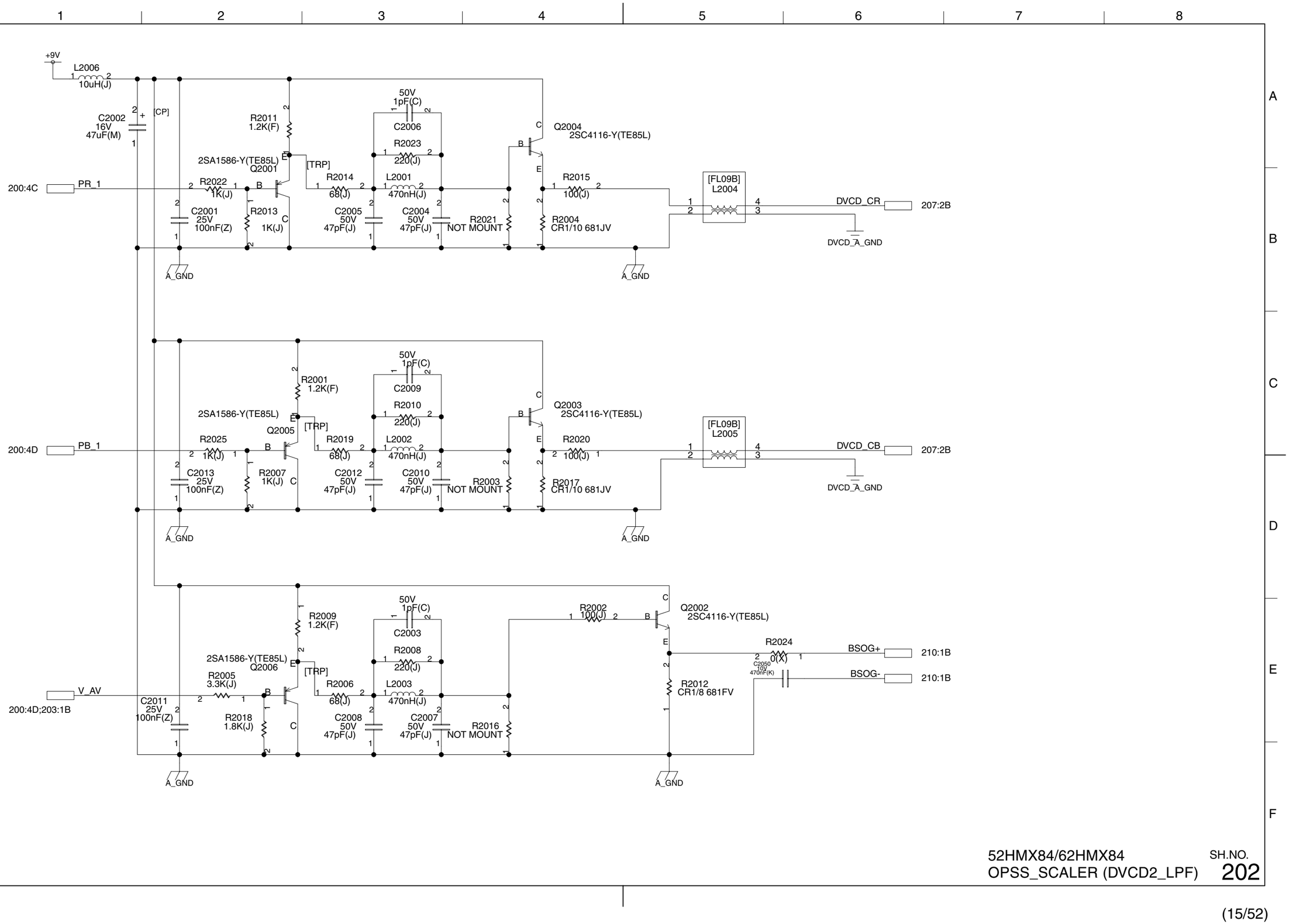


52HMX84/62HMX84
OPSS_SCALER (AV_CONNECTOR)

SH.NO.
200

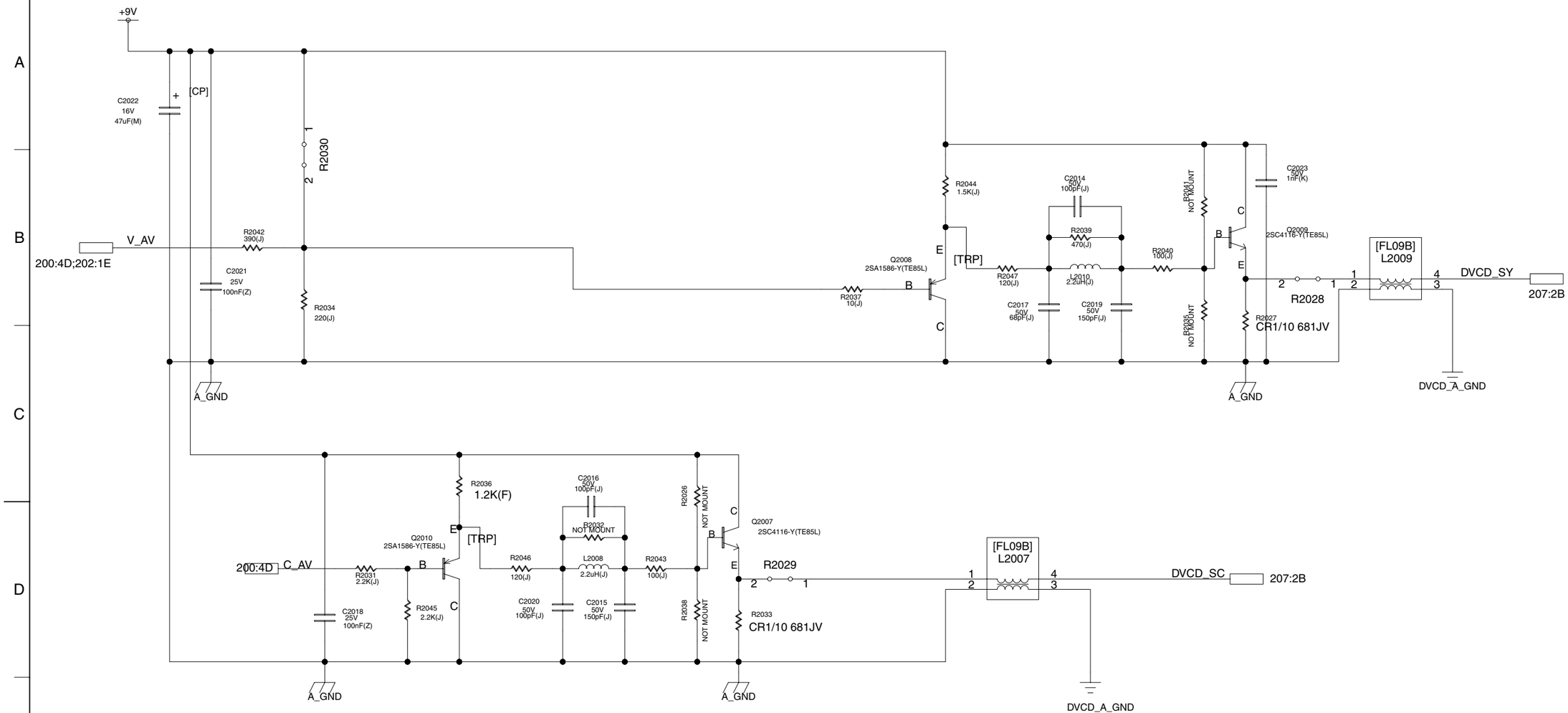


52HMX84/62HMX84 SH.NO.
OPSS_SCALER (AV_LPF) 201

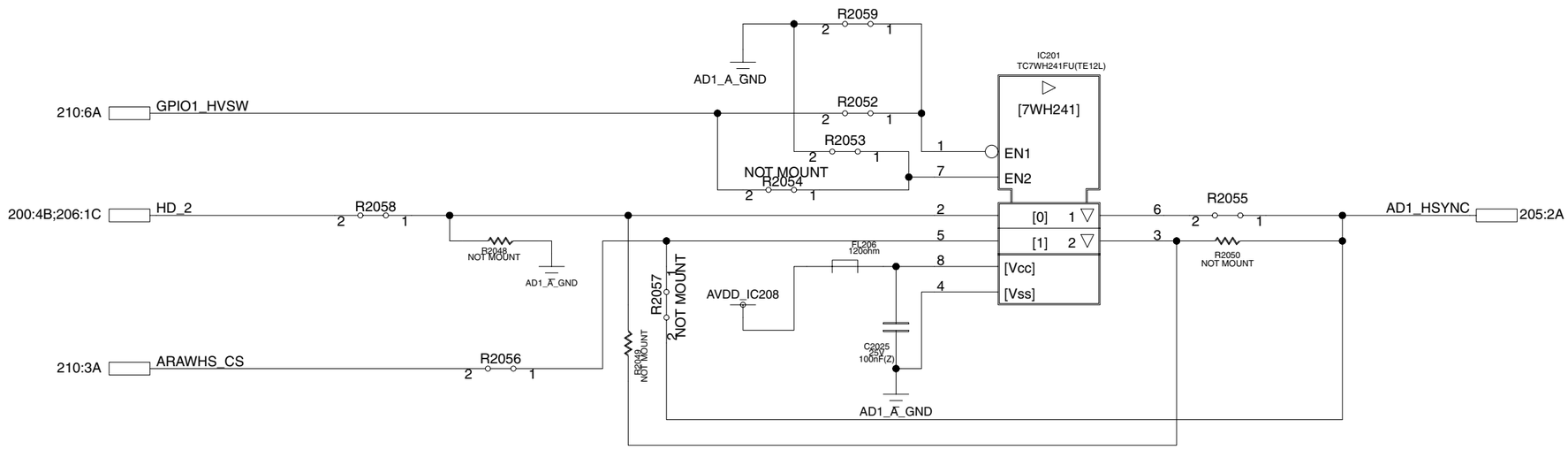


52HMX84/62HMX84
OPSS_SCALER (DVCD2_LPF)

SH.NO.
202

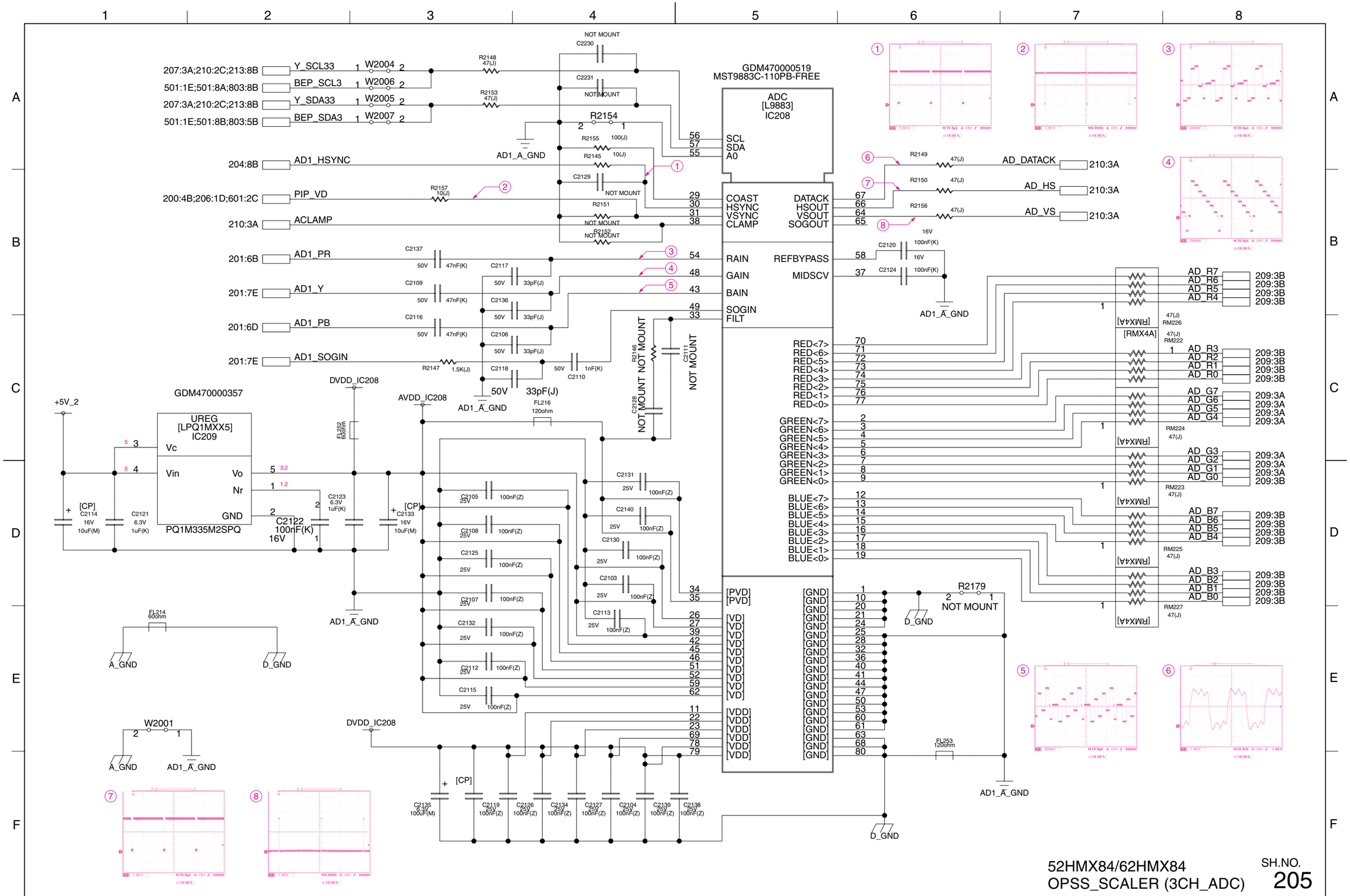


52HMX84/62HMX84 SH.NO.
OPSS_SCALER (DVCD1_LPF) 203



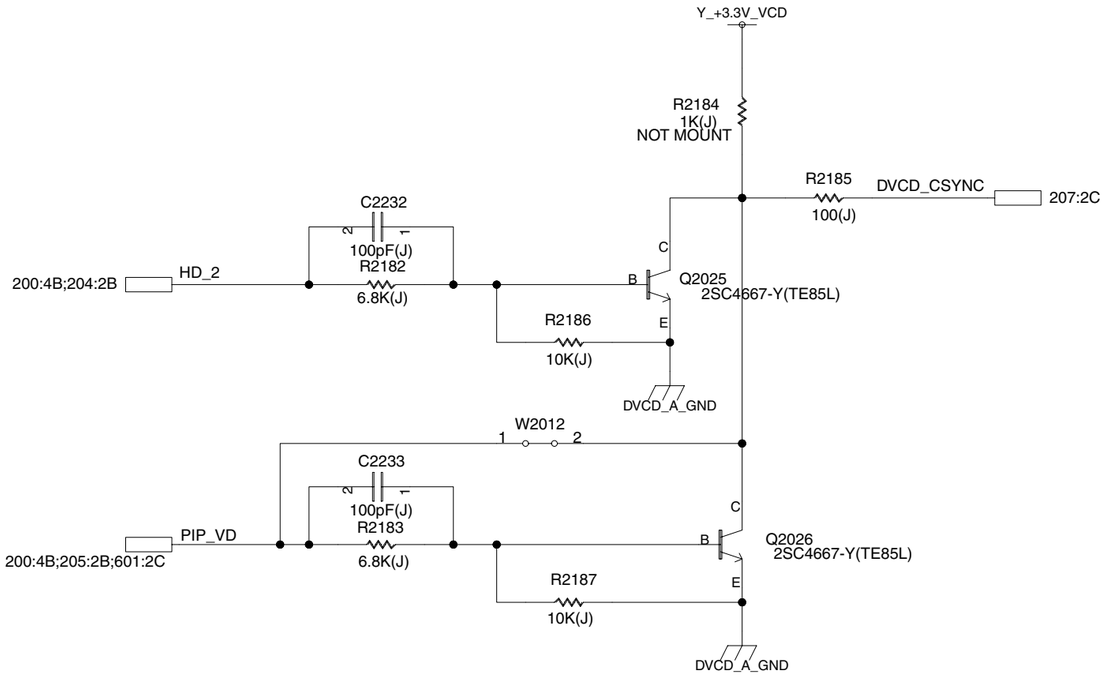
52HMX84/62HMX84
OPSS_SCALER (3CH_ADH_HD)

SH.NO.
204



52HMX84/62HMX84
OPSS_SCALER (3CH_ADC)

SH.NO. 205



52HMX84/62HMX84
OPSS_SCALER (VIDEO_DECODER_CSYNCIN)

SH.NO.
206

TC90A92AFG(BH,DRY)
GDM450000259

VIDEO DECODER
[U90A92]
IC210

205:2A;210:2C;213:8B Y_SCL33 — R2167 47(J) — SCL (32)
205:2A;210:2C;213:8B Y_SDA33 — R2171 47(J) — SDA (31)
R2169 NOT MOUNT — D_GND — BUSSEL (9)
210:2C;213:6D Y_RESET — R2162 1K(J) — RESET (30)
C2142 10nF(K)

203:8B DVCD_SY — C2145 470nF(K) — R2166 18K(J) NOT MOUNT — C2154 NOT MOUNT — C2155 220pF(J) — R2165 560(J) — FL219 120ohm — YIN (85) / YCLAMPP (80)
203:7D DVCD_SC — C2167 10nF(K) — CIN (90) / CRIN (92)
202:6C DVCD_CB — C2159 100nF(K) — C2169 100pF(J) — CBIN (94)
202:6B DVCD_CR — C2173 100nF(K) — C2144 33pF(J) — CSYNCIN (38)
206:4B DVCD_CSYNC — C2153 33pF(J) — PLLIN (2)

C2150 12pF(J) — C2161 1nF(K) — C2181 18pF(J) — X2002 42MHz — L2019 1.5uH(J) — R2170 100(J) — R2163 270K(J) — VCOFIL (3) / XOIN (6) / XOOUT (7)

C2152 10nF(K)

DIN0 (25) DIN1 (23) DIN2 (22) DIN3 (19) DIN4 (18) DIN5 (16) DIN6 (15) DIN7 (13) DIN8 (12) DIN9 (11)
GC14IN (26)
TESTIN (28) TESTM0 (29) TESTM1 (33) TESTM2 (34) TESTM3 (35) TESTM4 (37) TESTM5 (40) TESTM6 (41)
[VDDPLL] (1) [VDDYAD] (86) [VDDCAD] (91) [VDDDA] (96) [VDDRAMD1] (53)
[VDDRAM1] (21) [VDDRAM2] (51) [DVDD1] (10) [DVDD2] (17) [DVDD3] (36) [DVDD4] (59) [DVDD5] (70)
[VDDIO1] (24) [VDDIO2] (42) [VDDIO3] (64) [VDDXO] (5)

VRTYAD (82) VRMYAD (83) VRBYAD (87) BIASYAD (81) VRTCAD (89) VRBCAD (95) BIASCAD (88)
DAOUT (97) VREFDA (100) BIASDA (99)
YOUT0 (57) YOUT1 (56) YOUT2 (55) YOUT3 (54) YOUT4 (49) YOUT5 (48) YOUT6 (47) YOUT7 (46) YOUT8 (44) YOUT9 (43)
COUT0 (60) COUT1 (61) COUT2 (63) COUT3 (65) COUT4 (66) COUT5 (68) COUT6 (69) COUT7 (71) COUT8 (72) COUT9 (74)
CKOUT (58) HDOUT (75) VDOUT (76) OEPK (77) UVFLAG (78) VBIREADY (79)
[VSSPLL] (4) [VSSYAD] (84) [VSSCAD] (93) [VSSDA] (98) [VSSRAMD1] (52)
[VSSRAM1] (20) [VSSRAM2] (50)
[DVSS12] (14) [DVSS3] (39) [DVSS4] (62) [DVSS5] (73)
[VSSIO1] (27) [VSSIO2] (45) [VSSIO3] (67) [VSSXO] (8)

C2163 C2186 C2179 C2170 C2177 C2191 C2178 100nF(Z) — DVCD_A_GND
Y_+2.5V_VCDPLL
2SC4116-Y(TE85L) Q2019 — R2168 1.5K(J) — C2151 4pF(C) — R2158 470(J)
C2162 100nF(Z) — C2188 100nF(Z) — Y_GND_1A

[RMX4A] RM231 47(J) — DVCD_DATA0 DVCD_DATA1 DVCD_DATA2 DVCD_DATA3 — 209:1C
[RMX4A] RM228 47(J) — DVCD_BDATA0 DVCD_BDATA1 DVCD_BDATA2 DVCD_BDATA3 — 209:3D
[RMX4A] RM233 47(J) — DVCD_BDATA4 DVCD_BDATA5 DVCD_BDATA6 DVCD_BDATA7 — 209:3D
[RMX4A] RM232 47(J) — DVCD_DATA4 DVCD_DATA5 DVCD_DATA6 DVCD_DATA7 — 209:1C
[RMX4A] RM229 47(J) — DVCD_BDATA11 DVCD_BDATA10 DVCD_BDATA9 DVCD_BDATA8 — 209:3C
[RMX4A] RM230 47(J) — DVCD_BDATA15 DVCD_BDATA14 DVCD_BDATA13 DVCD_BDATA12 — 209:3C

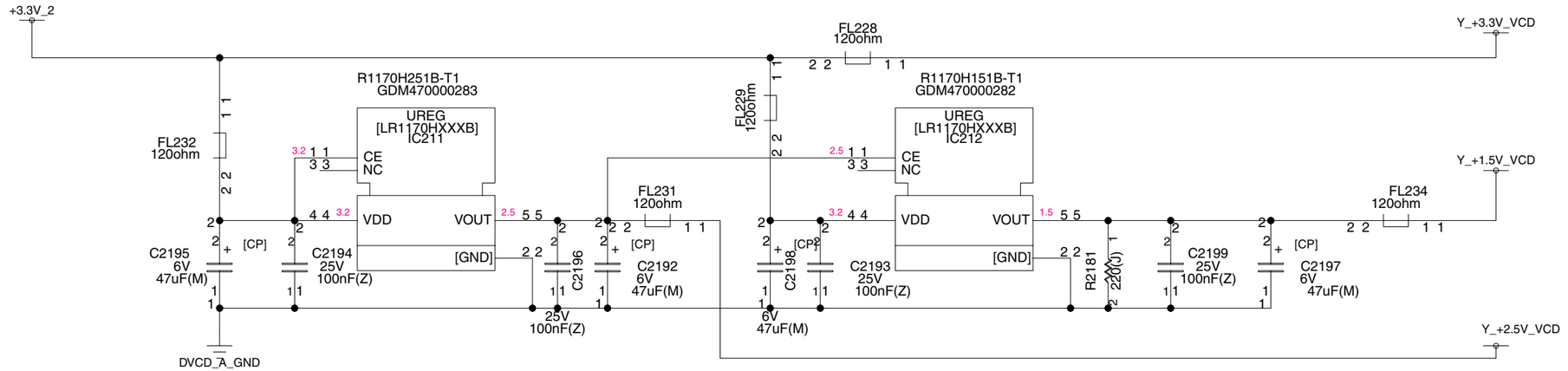
R2164 10(J) — DVCD_BCLK — 210:2C
R2159 10(J) — DVCD_HD — 210:3B
R2160 10(J) — DVCD_VD — 210:3B
R2161 10(J) — BCLAMP — 210:3B

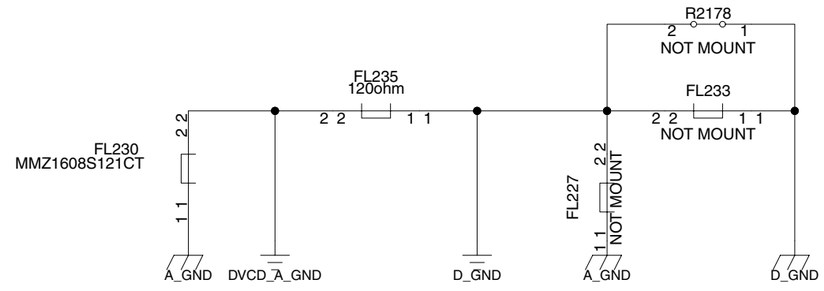
Y_+2.5V_VCDPLL — FL249 — C2172 47uF(M) — C2165 [CP] 100nF(Z) — C2180 [CP] 47uF(M) 6V — C2168 100nF(Z) — DVCD_A_GND
C2149 100uF(M) — C2189 10nF(K)
Y_+2.5V_VCD — FL224 — Y_+1.5V_VCD — FL218 — FL226 — C2171 47uF(M) — C2184 [CP] 100nF(Z) — C2156 [CP] 47uF(M) — C2185 100nF(Z) — C2187 47uF(M) — C2175 [CP] 10nF(K) — Y_RAM_GND
FL225 — W2002 0(X) — C2148 100uF(M) — C2176 10nF(K) — C2183 100nF(Z) — C2164 [CP] 47uF(M) — C2157 100nF(Z) — C2147 [CP] 47uF(M) — C2141 100nF(Z) — D_GND
Y_+3.3V_VCD — FL223 — C2174 [CP] 47uF(M) — C2146 10nF(K) — C2160 100nF(Z) — C2166 100nF(Z) — C2158 100nF(Z)
FL220 — DVCD_A_GND — Y_GND_1A — FL222

FL217 — Y_RAM_GND — FL221 NOT MOUNT — DVCD_A_GND — Y_GND_1A
Y_+3.3V_VCD — W2003 0(X) — C2182 100nF(Z) — C2190 [CP] 47uF(M) — C2143 100nF(Z) — D_GND

52HMX84/62HMX84
OPSS_SCALER (VIDEO_DECODER)

SH.NO. 207





52HMX84/62HMX84
OPSS_SCALER (VIDEO_DECODER_POWER)

SH.NO.
208

GM6015BD-LF
GDM460000748

[U6015]
IC203

205:8C	AD_G7	163	ADATA23
205:8C	AD_G6	164	ADATA22
205:8C	AD_G5	165	ADATA21
205:8C	AD_G4	168	ADATA20
205:8C	AD_G3	169	ADATA19
205:8D	AD_G2	170	ADATA18
205:8D	AD_G1	171	ADATA17
205:8D	AD_G0	172	ADATA16
205:8D	AD_B7	173	ADATA15
205:8D	AD_B6	174	ADATA14
205:8D	AD_B5	175	ADATA13
205:8D	AD_B4	176	ADATA12
205:8D	AD_B3	177	ADATA11
205:8D	AD_B2	178	ADATA10
205:8D	AD_B1	179	ADATA9
205:8D	AD_B0	180	ADATA8
205:8B	AD_R7	181	ADATA7
205:8B	AD_R6	182	ADATA6
205:8B	AD_R5	183	ADATA5
205:8B	AD_R4	186	ADATA4
205:8C	AD_R3	187	ADATA3
205:8C	AD_R2	188	ADATA2
205:8C	AD_R1	189	ADATA1
205:8C	AD_R0	190	ADATA0

207:8D	DVCD_DATA7	R2093	16
207:8D	DVCD_DATA6	R2094	18
207:8D	DVCD_DATA5	R2095	19
207:8D	DVCD_DATA4	R2097	20
207:8B	DVCD_DATA3	R2096	22
207:8B	DVCD_DATA2	R2098	23
207:8B	DVCD_DATA1	R2099	24
207:8B	DVCD_DATA0	R2100	25

207:8D	DVCD_BDATA15	28	BDATA23
207:8D	DVCD_BDATA14	29	BDATA22
207:8D	DVCD_BDATA13	30	BDATA21
207:8E	DVCD_BDATA12	31	BDATA20
207:8D	DVCD_BDATA11	32	BDATA19
207:8D	DVCD_BDATA10	34	BDATA18
207:8D	DVCD_BDATA9	35	BDATA17
207:8D	DVCD_BDATA8	36	BDATA16
207:8C	DVCD_BDATA7	37	BDATA15
207:8C	DVCD_BDATA6	38	BDATA14
207:8C	DVCD_BDATA5	39	BDATA13
207:8C	DVCD_BDATA4	42	BDATA12
207:8C	DVCD_BDATA3	43	BDATA11
207:8C	DVCD_BDATA2	44	BDATA10
207:8C	DVCD_BDATA1	45	BDATA9
207:8C	DVCD_BDATA0	46	BDATA8
			BDATA7
			BDATA6
			BDATA5
			BDATA4
			BDATA3
			BDATA2
			BDATA1
			BDATA0

211:7E	MDO_MD31	96	RAMADQ31
211:7E	MDO_MD30	94	RAMADQ30
211:7E	MDO_MD29	93	RAMADQ29
211:7E	MDO_MD28	92	RAMADQ28
211:7D	MDO_MD27	91	RAMADQ27
211:7D	MDO_MD26	90	RAMADQ26
211:7D	MDO_MD25	88	RAMADQ25
211:7D	MDO_MD24	87	RAMADQ24
211:7D	MDO_MD23	97	RAMADQ23
211:7D	MDO_MD22	98	RAMADQ22
211:7D	MDO_MD21	99	RAMADQ21
211:7D	MDO_MD20	100	RAMADQ20
211:7C	MDO_MD19	101	RAMADQ19
211:7C	MDO_MD18	102	RAMADQ18
211:7C	MDO_MD17	103	RAMADQ17
211:7C	MDO_MD16	104	RAMADQ16
211:7C	MDO_MD15	142	RAMDQ15
211:7C	MDO_MD14	140	RAMDQ14
211:7C	MDO_MD13	139	RAMDQ13
211:7C	MDO_MD12	137	RAMDQ12
211:7C	MDO_MD11	136	RAMDQ11
211:7C	MDO_MD10	135	RAMDQ10
211:7B	MDO_MD9	134	RAMDQ9
211:7B	MDO_MD8	133	RAMDQ8
211:7B	MDO_MD7	143	RAMDQ7
211:7B	MDO_MD6	144	RAMDQ6
211:7B	MDO_MD5	145	RAMDQ5
211:7B	MDO_MD4	148	RAMDQ4
211:7B	MDO_MD3	149	RAMDQ3
211:7B	MDO_MD2	151	RAMDQ2
211:7B	MDO_MD1	152	RAMDQ1
211:7B	MDO_MD0	153	RAMDQ0

DDATA0	84	LVD_Y0	300:1C
DDATA1	83	LVD_Y1	300:1C
DDATA2	81	LVD_Y2	300:1C
DDATA3	80	LVD_Y3	300:1C
DDATA4	79	LVD_Y4	300:1B
DDATA5	78	LVD_Y5	300:1B
DDATA6	77	LVD_Y6	300:1B
DDATA7	76	LVD_Y7	300:1B
DDATA8	75	LVD_C0	300:1D
DDATA9	74	LVD_C1	300:1D
DDATA10	73	LVD_C2	300:1D
DDATA11	72	LVD_C3	300:1C
DDATA12	69	LVD_C4	300:1C
DDATA13	68	LVD_C5	300:1C
DDATA14	67	LVD_C6	300:1C
DDATA15	66	LVD_C7	300:1C
DDATA16	65	LVD_PR0	300:1D
DDATA17	64	LVD_PR1	300:1D
DDATA18	63	LVD_PR2	300:1D
DDATA19	62	LVD_PR3	300:1D
DDATA20	61	LVD_PR4	300:1D
DDATA21	60	LVD_PR5	300:1D
DDATA22	58	LVD_PR6	300:1D
DDATA23	57	LVD_PR7	300:1D
RAMADDR10	121	MAO_MA9	211:2B
RAMADDR9	113	MAO_MA8	211:2B
RAMADDR8	112	MAO_MA7	211:2B
RAMADDR7	111	MAO_MA6	211:2B
RAMADDR6	110	MAO_MA5	211:2B
RAMADDR5	109	MAO_MA4	211:2B
RAMADDR4	108	MAO_MA3	211:2B
RAMADDR3	107	MAO_MA2	211:2B
RAMADDR2	118	MAO_MA1	211:2B
RAMADDR1	119	MAO_MA0	211:2A
RAMADDR0	120	MAO_MA10	211:2B
RAMDQ_MSK	132	MAO_DQM	211:2C
/RAMWE	131	MAO_WE	211:2C
/RAM_CAS	128	MAO_CAS	211:2C
/RAM_RAS	126	MAO_BAS	211:2C
/RAMCS	125	MAO_CS	211:2C
RAMBS0	123	MAO_BS0	211:2B
RAMBS1	122	MAO_BS1	211:2B
RAMCLK	116	MAO_MCLK	211:2B

RM209 47(J) [RMX4A]
RM208 47(J) [RMX4A]
RM206 47(J) [RMX4A]
RM205 47(J) [RMX4A]
RM234 47(J) [RMX4A]
RM235 47(J) [RMX4A]
RM202 47(J) [RMX4A]
RM203 47(J) [RMX4A]
RM201 47(J) [RMX4A]
RM207 47(J) [RMX4A]
RM204 47(J) [RMX4A]
R2101 47(J)

52HMX84/62HMX84
OPSS_SCALER (GENESIS-1)

SH.NO. 209

GM6015BD-LF
GDM460000748

[U6015]
IC203

205:7B AD_VS
205:2B ACLAMP
205:7A AD_DATACK
205:7B AD_HS
204:2C ARAWHS_CS

GENESIS_VDD_3.3V
CSS_3.3V

202:6E BSOG+
202:6E BSOG-
201:7E ASOG-
201:7E ASOG+
C2051 10V 470nF(K)
C2048 NOT MOUNT
R2116 330K(J)
R2103 10K(J)
R2114 330K(J)

207:8E DVCD_VD
207:8E BCLAMP
207:8E DVCD_HD

GENESIS_VDD_3.3V
R2113 10K(J)
R2107
D_GND

207:8E DVCD_BCLK
205:2A;207:3A;213:8B Y_SCL33
205:2A;207:3A;213:8B Y_SDA33
207:2A;213:6D Y_RESET
R2117 47(J)
R2111 47(J)
R2102 47(J)
R2115 47K(J)
R2118 NOT MOUNT
D_GND

601:2C G_IRQ
R2119 1K(J)

CSS_3.3V
C2065 25V 100nF(Z)
CSS_GND

AVDD_3.3
C2055 25V 100nF(Z)
C2081 25V 100nF(Z)
C2071 25V 100nF(Z)
C2063 50V 220pF(J)
C2075 50V 220pF(J)
PLL_GND

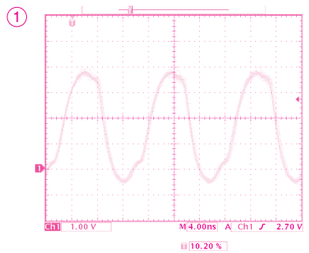
156	AVS	GPI01	47
155	AODD	GPI02	48
154	ACLK	DODD	53
157	AHS_CS	DCLK	54
158	ARAWHS_CS	DHS_CS	49
159	ACREF	DVS_SYNCT	50
160	AHREF_DE	DDE_BLANK	52
204	BSOY_G+		
205	BSOY_G-		
206	ASOY_G-		
207	ASOY_G+		
9	BVS	XTAL	201
8	BODD	TCLK	202
7	BCLK		
10	BHS_CS		
13	BRAWHS_CS		
14	BCREF		
15	BHREF_DE		
3	/SCS		
2	SCLK		
4	SDATA		
5	/RESET		
6	/IRQ		
208	AVDD_CSS	VDD	21
203	AVSS_CSS	VDD	70
200	AVDD_RPLL	VDD	89
199	AVSS_RPLL	VDD	106
198	AVDD_MPLL	VDD	124
197	AVSS_MPLL	VDD	141
194	AVDD_DDS	VDD	162
193	AVSS_DDS	VSS	17
196	VDD_PLL	VSS	71
195	VSS_PLL	VSS	95
192	VDD_DDS	VSS	105
191	VSS_DDS	VSS	127
		VSS	138
		VSS	161
		VDD	51
		CVDD	12
		CVDD	27
		CVDD	41
		CVDD	55
		CVDD	86
		CVDD	115
		CVDD	130
		CVDD	147
		CVDD	167
		CVDD	185
		VSS	11
		VSS	26
		VSS	40
		VSS	56
		VSS	85
		VSS	114
		VSS	129
		VSS	146
		VSS	166
		VSS	184
		VSS	1
		VSS	33
		VSS	117
		VSS	150
		VSS	59
		VSS	82

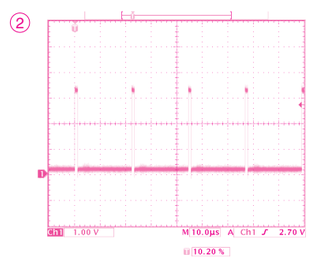
R2104 47(J) GPIO1_HVSW 204:2B
R2112 47(J) LVD_CLK 300:1E
R2105 47(J) LVD_HS 300:1E;605:2A
R2106 47(J) LVD_VS 300:1E;605:2A
R2188 LVD_VS_BEPMCU 502:7A

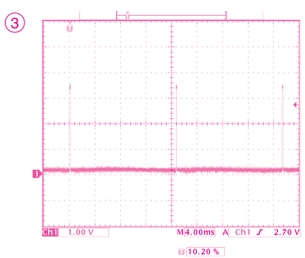
GDM100000113
X2001 14.31818MHz
R2110 3.3K(J)
C2073 22pF(J)
C2077 50V 22pF(J)
R2109 NOT MOUNT
PLL_GND

AVDD_3.3
MEMI/O_3.3
MEMI/O_CVDD_2.5
CVDD_2.5
GENESIS_VDD_3.3V

[CP] C2079 6V 47uF(M)
C2059 50V 220pF(J)
C2053 50V 220pF(J)
C2060 50V 220pF(J)
C2052 50V 220pF(J)
C2064 6V 47uF(M)
C2068 25V 100nF(Z)
C2047 25V 100nF(Z)
C2057 25V 100nF(Z)
C2062 47uF(M) 6V
C2069 50V 220pF(J)
C2078 50V 220pF(J)
C2070 50V 220pF(J)
C2076 50V 220pF(J)
C2083 6V 47uF(M)
C2054 25V 100nF(Z)
C2074 25V 100nF(Z)
C2066 25V 100nF(Z)
C2056 25V 100nF(Z)
C2080 25V 100nF(Z)
C2082 50V 220pF(J)
C2067 25V 100nF(Z)
C2072 50V 220pF(J)
C2061 25V 100nF(Z)
C2058 50V 220pF(J)
D_GND

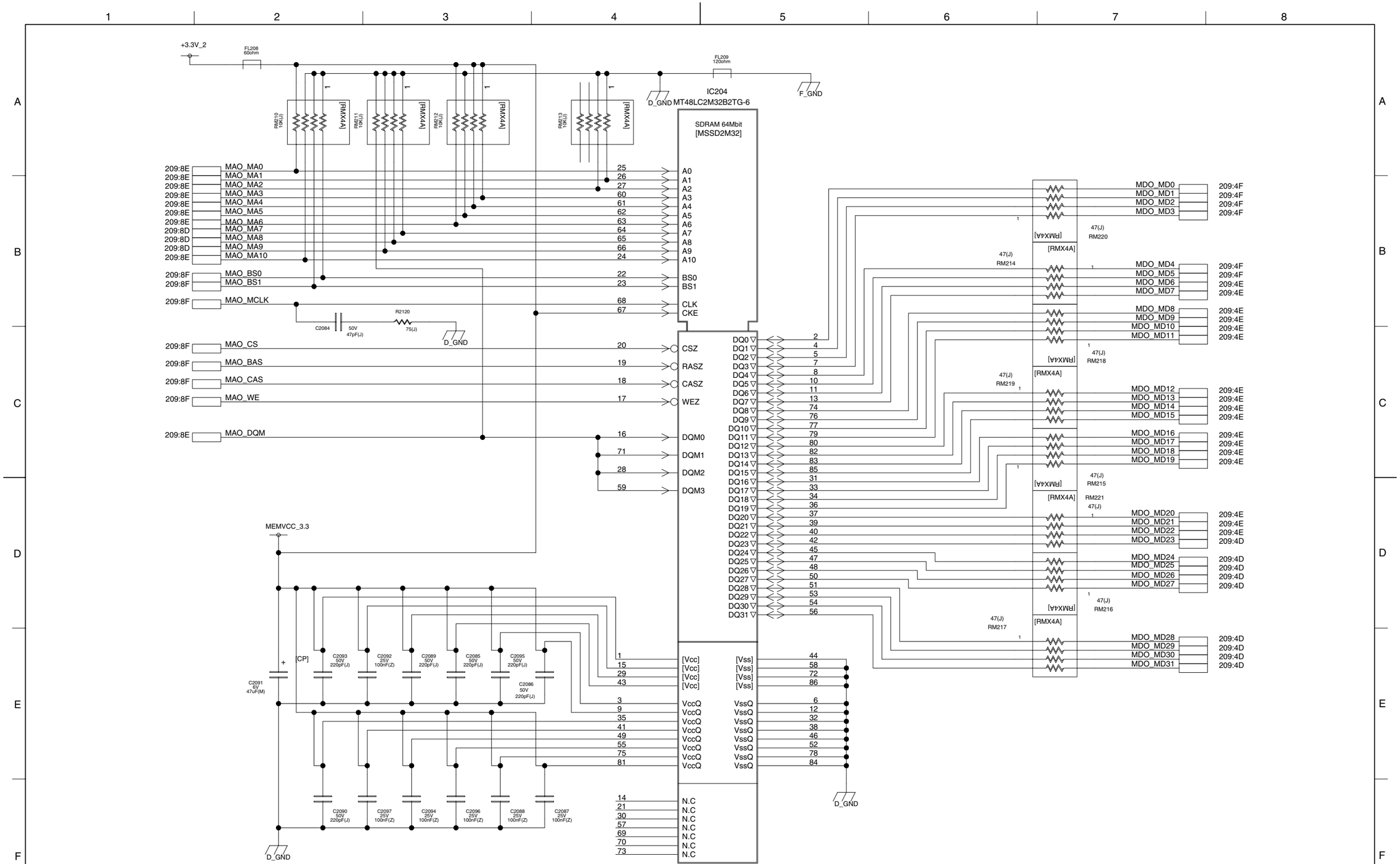
① 

② 

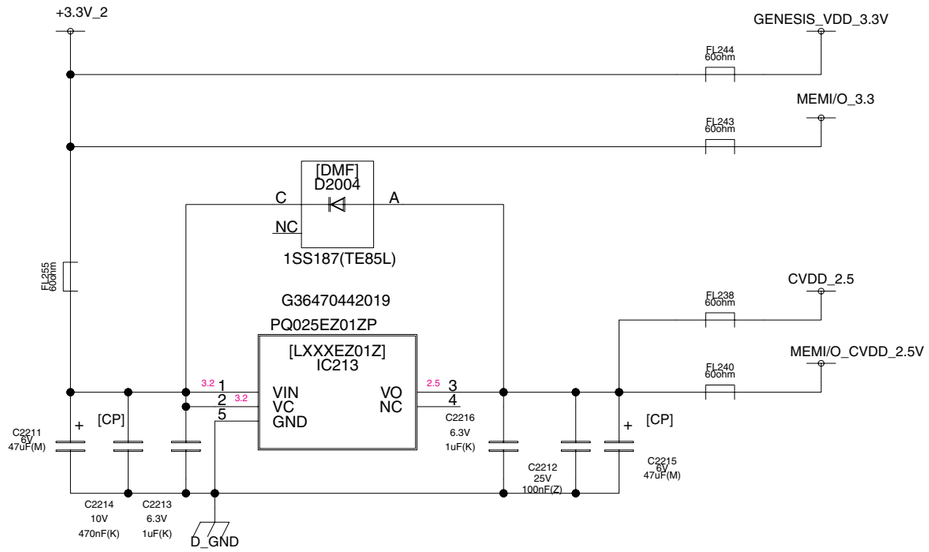
③ 

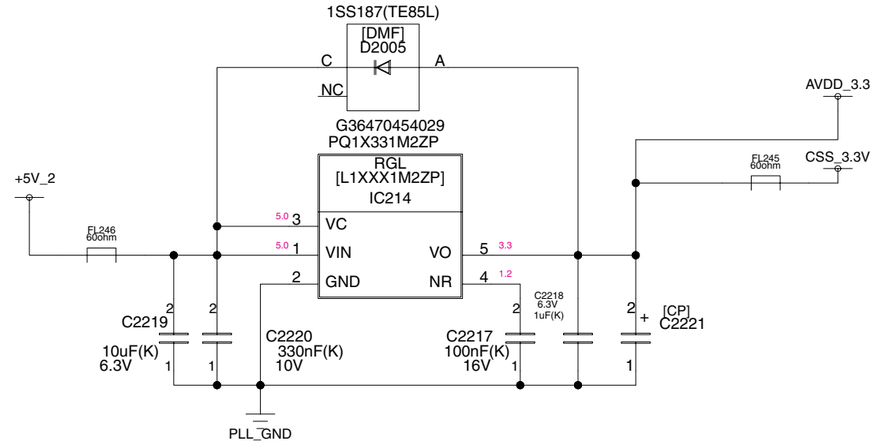
52HMX84/62HMX84
OPSS_SCALER (GENESIS-2)

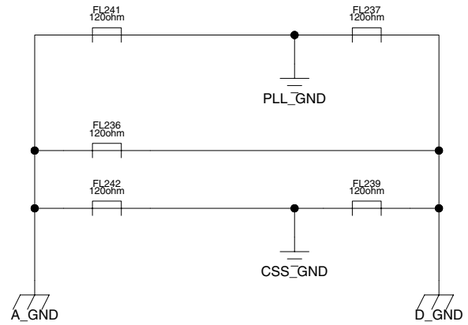
SH.NO. 210



52HMX84/62HMX84 SH.NO.
OPSS_SCALER (SDRAM) 211

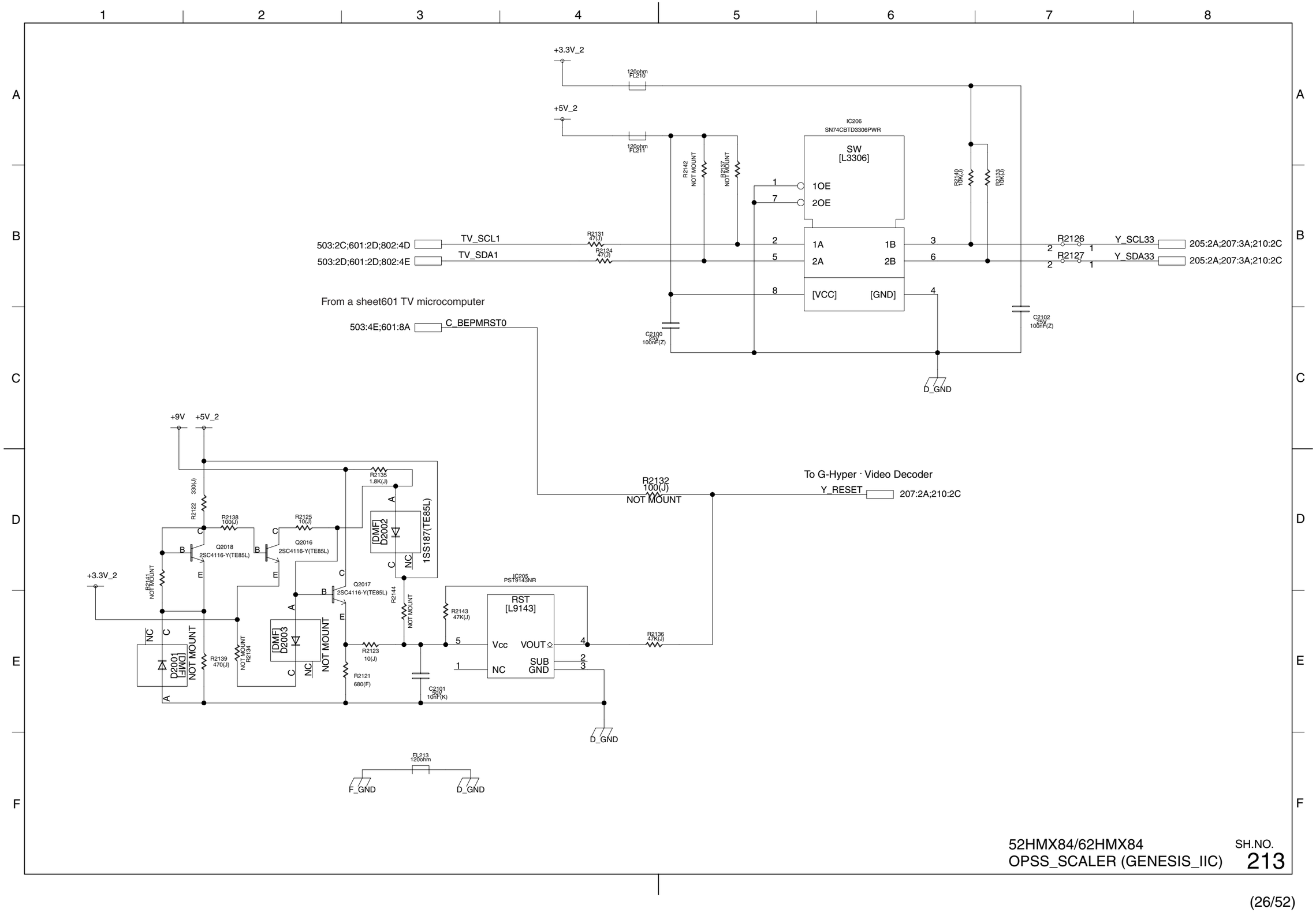






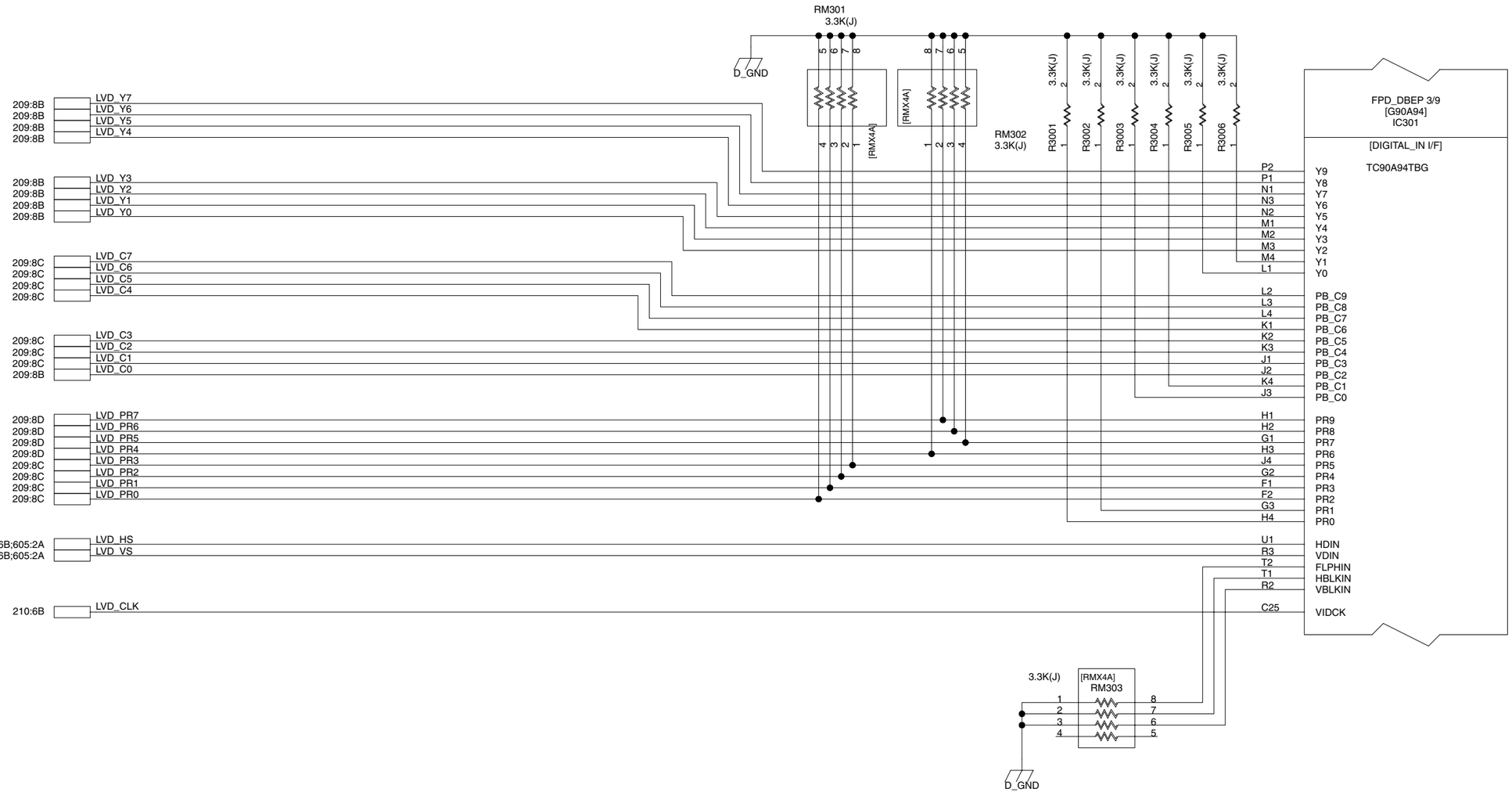
52HMX84/62HMX84
OPSS_SCALER (GENESIS_POWER)

SH.NO. 212



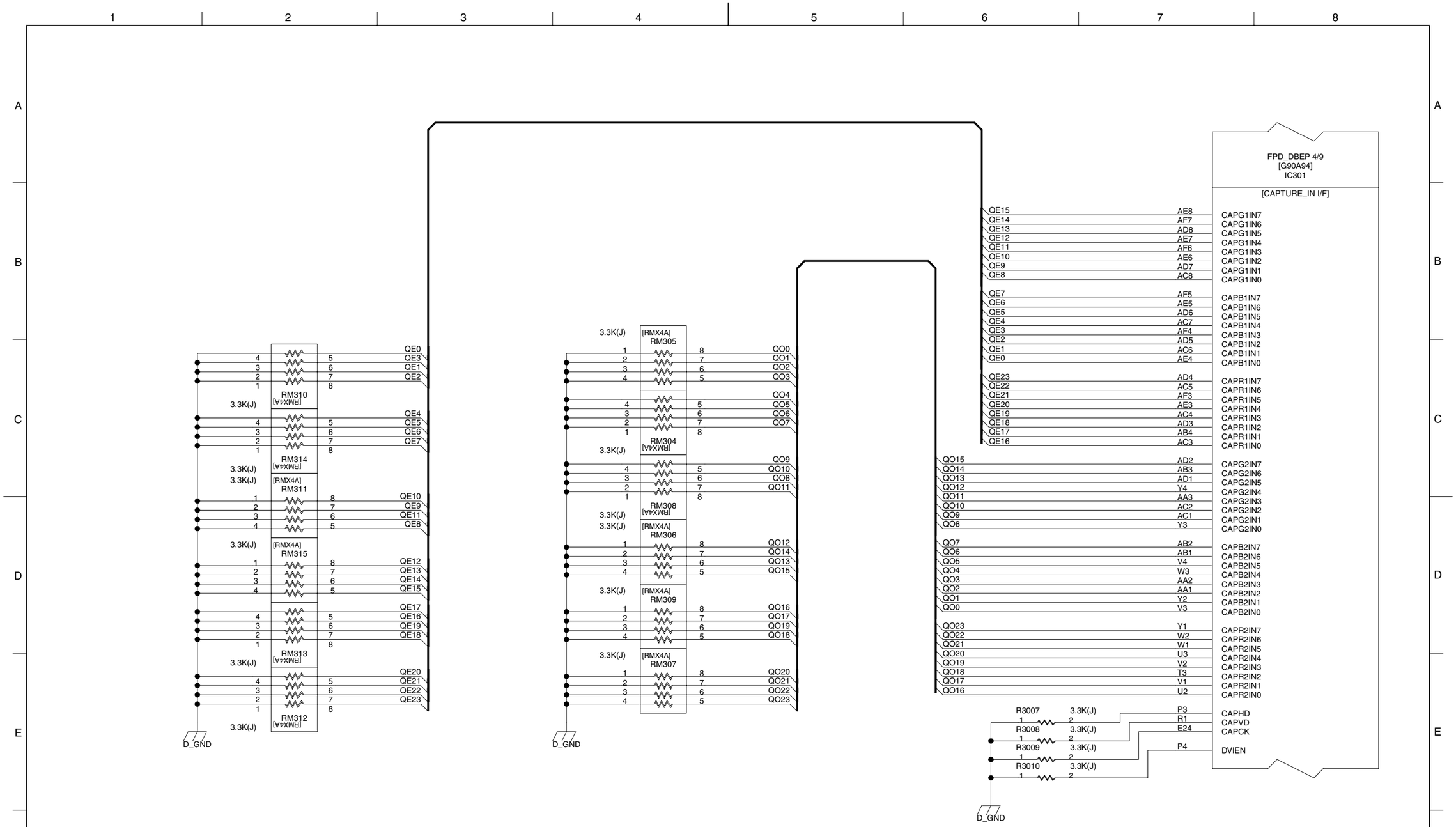
52HMX84/62HMX84
OPSS_SCALER (GENESIS_IIC)

SH.NO. 213



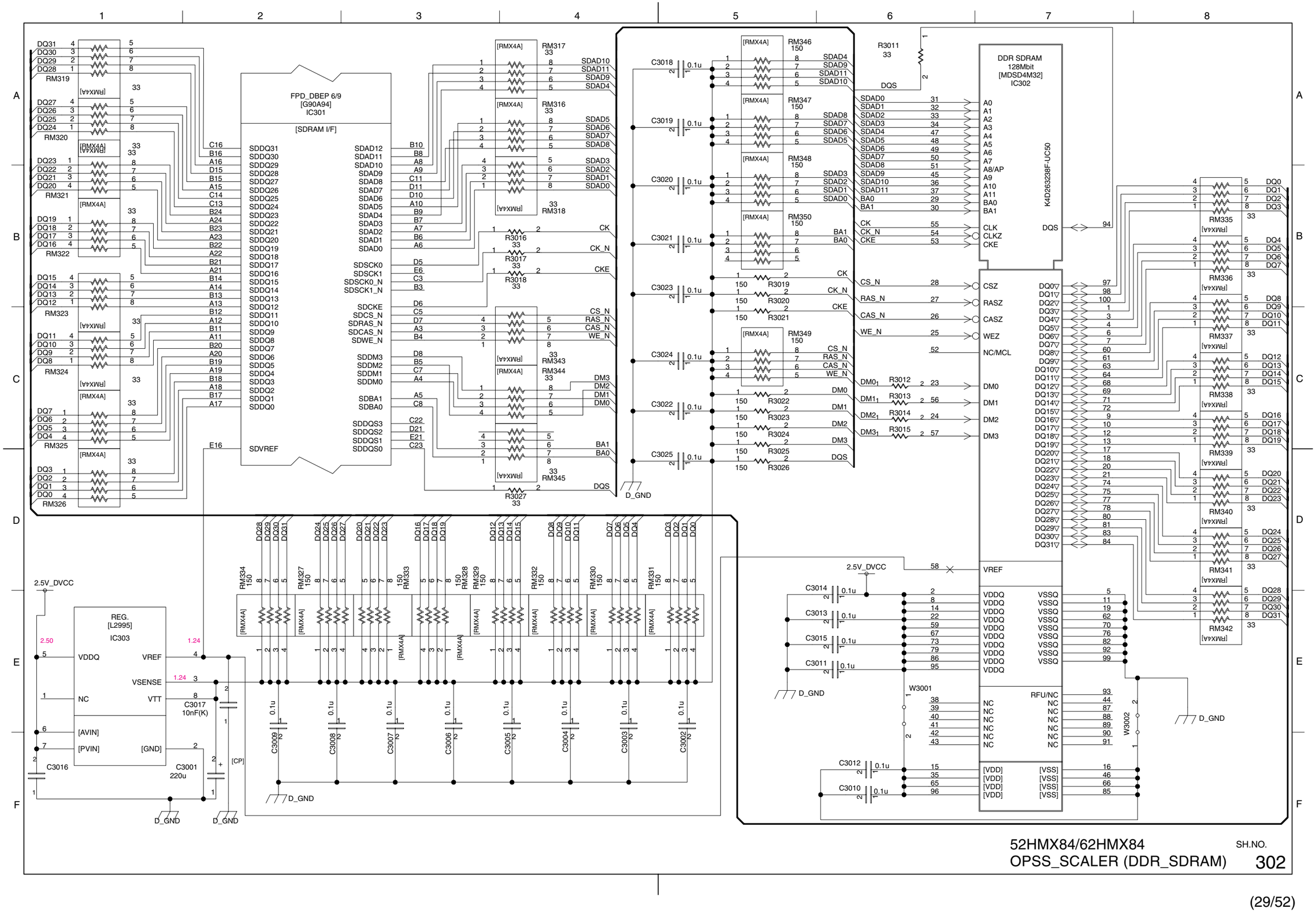
52HMX84/62HMX84
OPSS_SCALER (SCALER_DIGITAL_INPUT)

SH.NO. 300

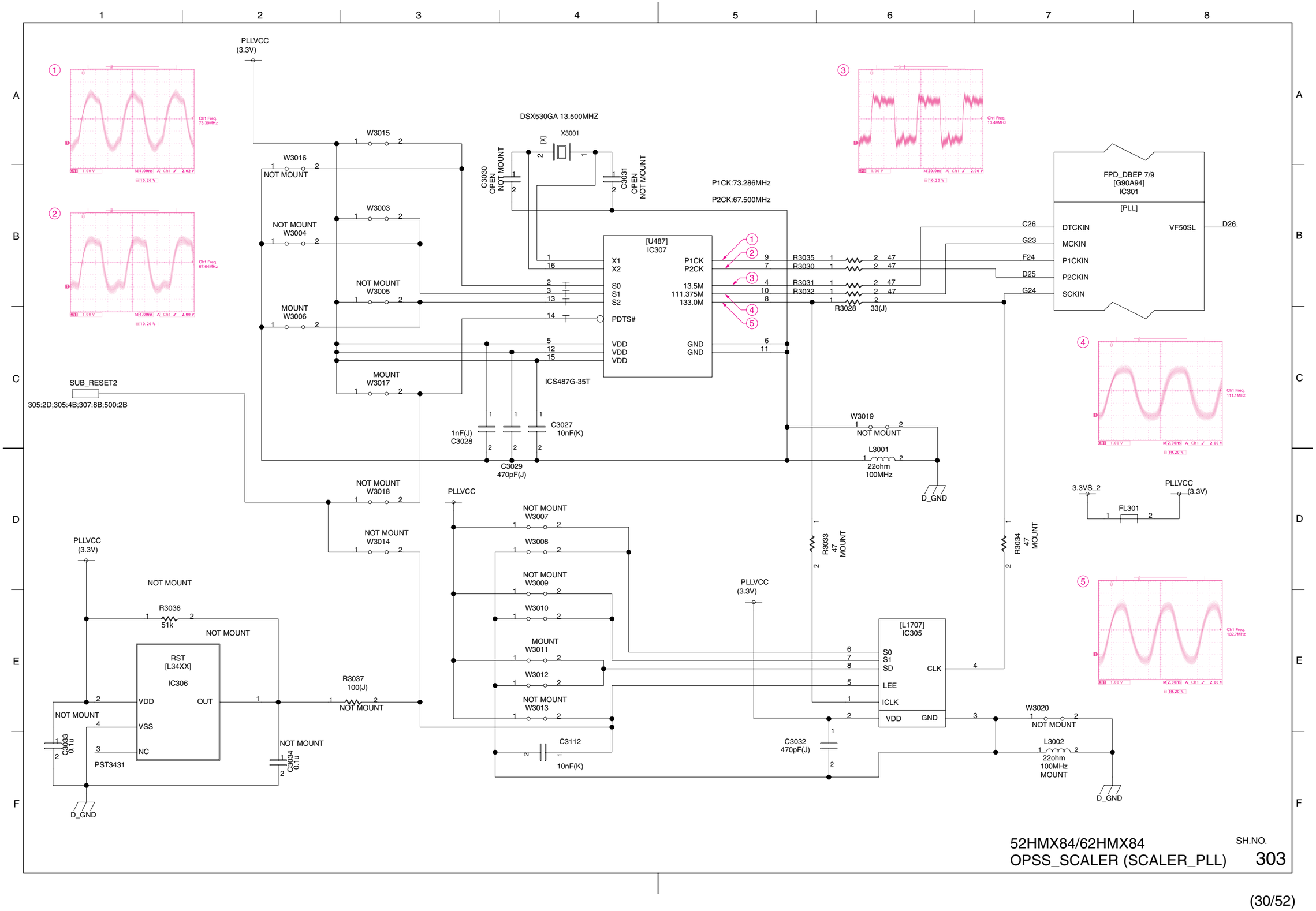


52HMX84/62HMX84
OPSS_SCALER (SCALER_CAPTURE_INPUT)

SH.NO.
301

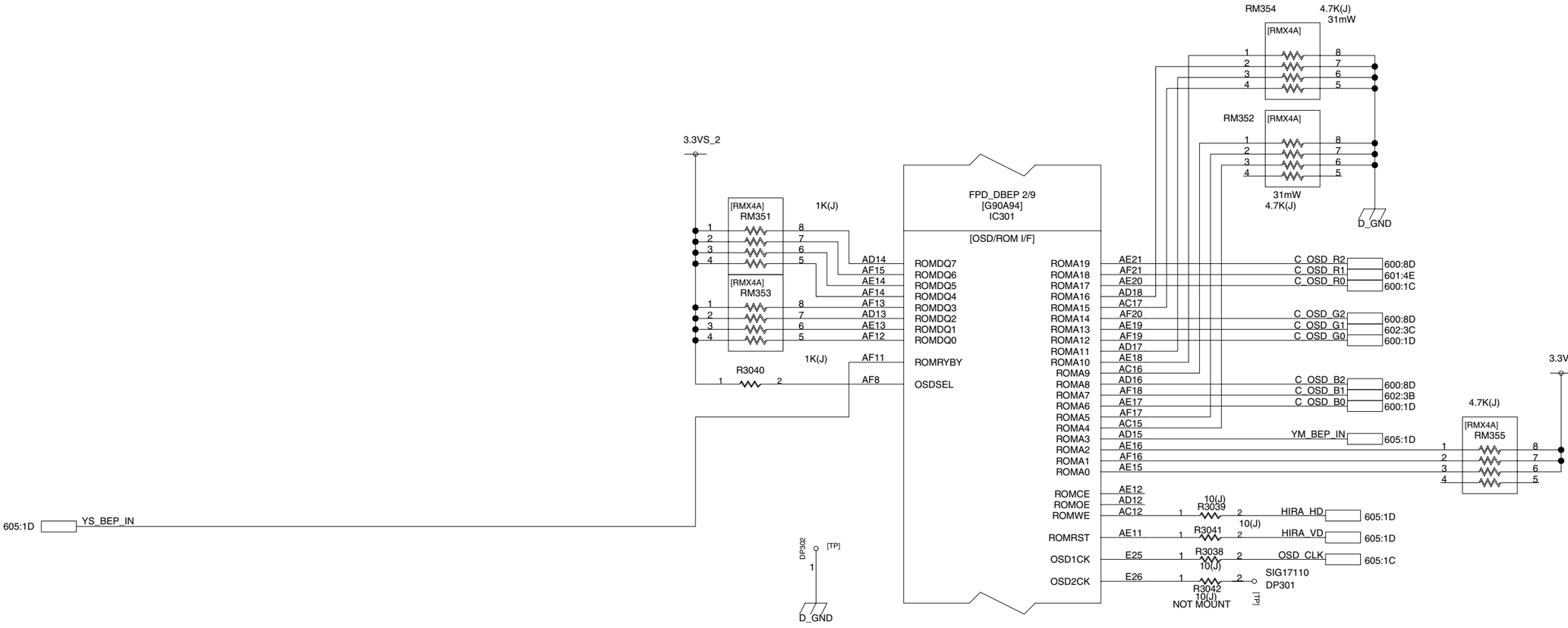


52HMX84/62HMX84 SH.NO.
OPSS_SCALER (DDR_SDRAM) 302



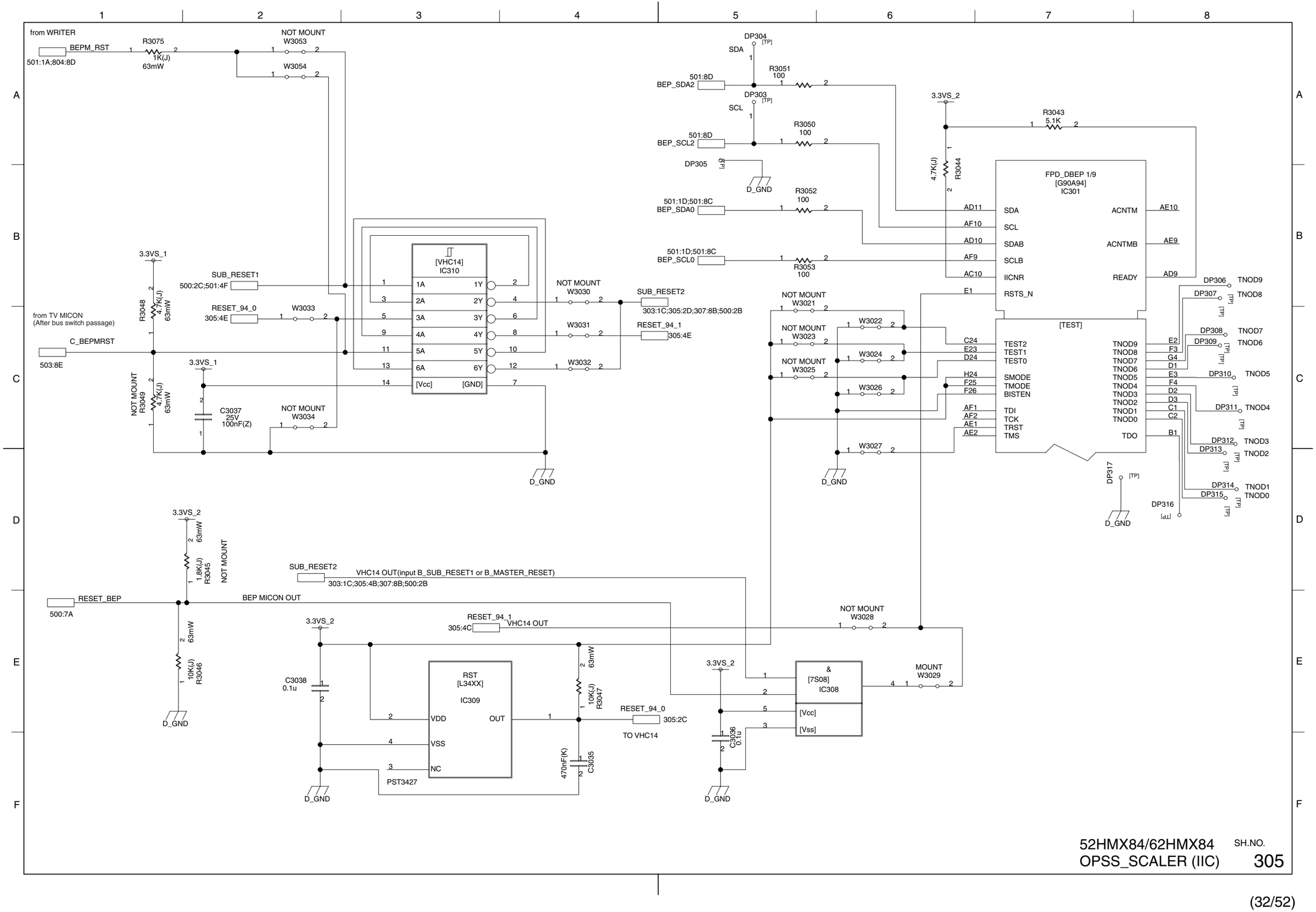
52HMX84/62HMX84
OPSS_SCALER (SCALER_PLL)

SH.NO.
303

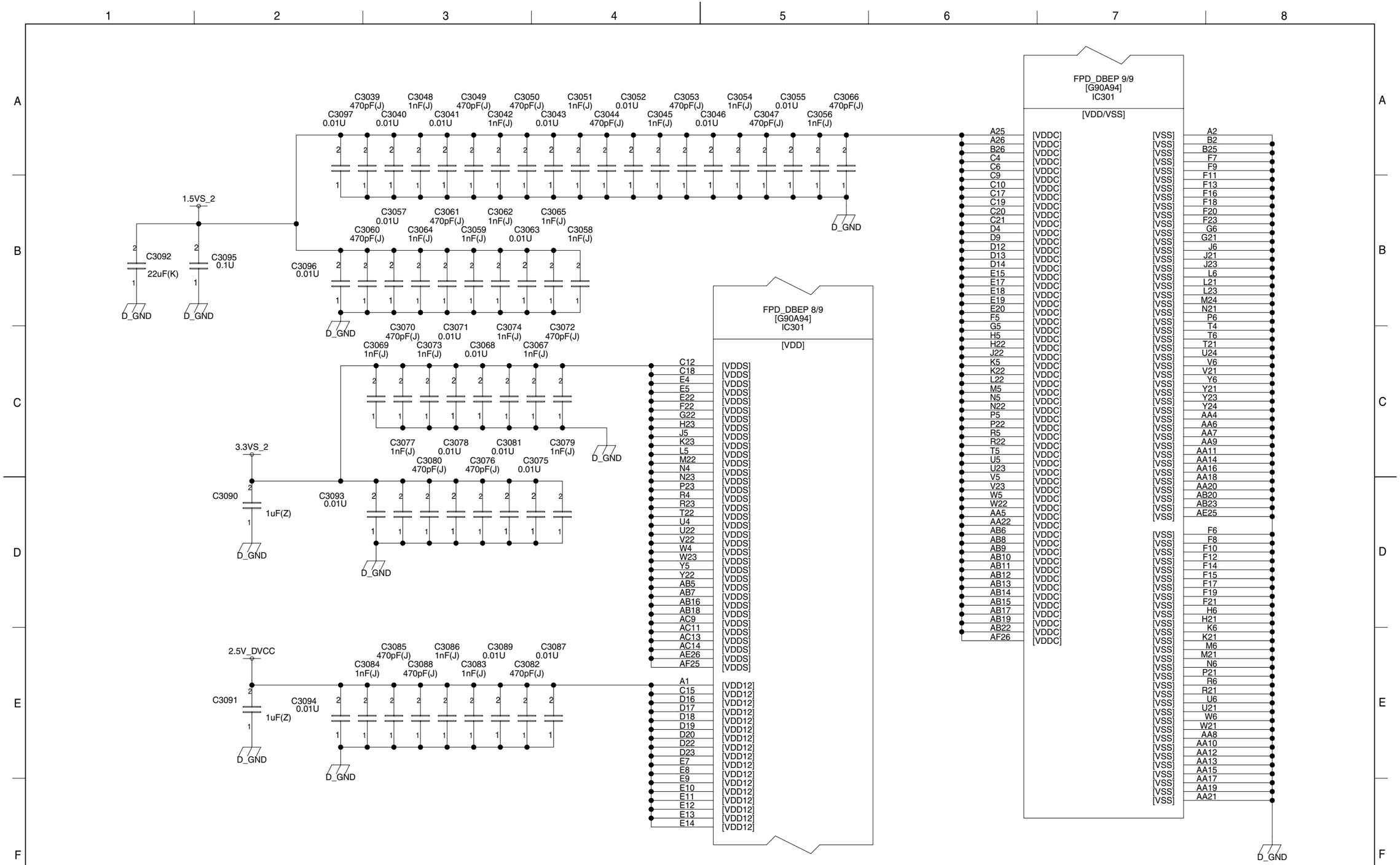


52HMX84/62HMX84
OPSS_SCALER (OSD_FOR_NORTH_AMERICA)

SH.NO.
304

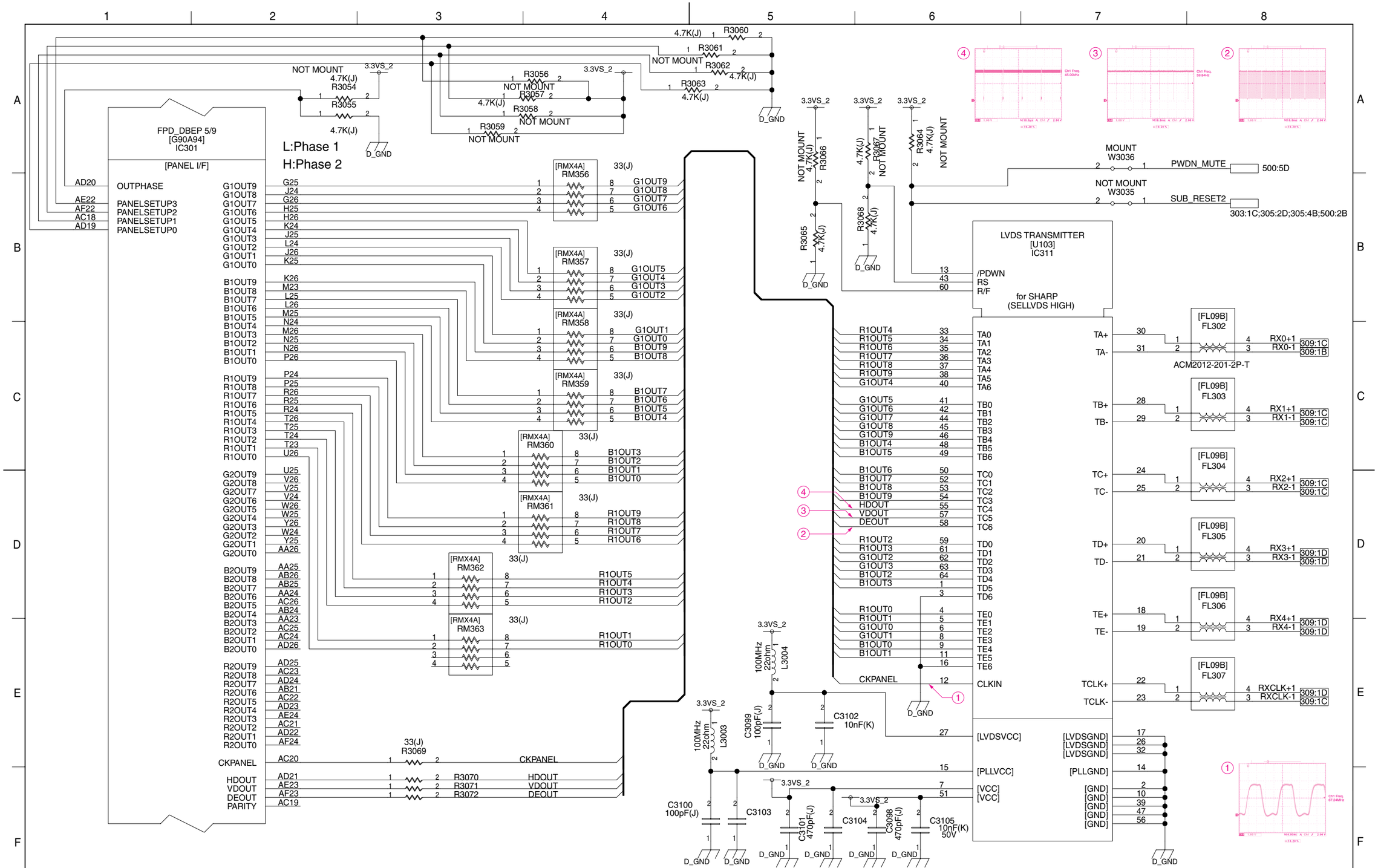


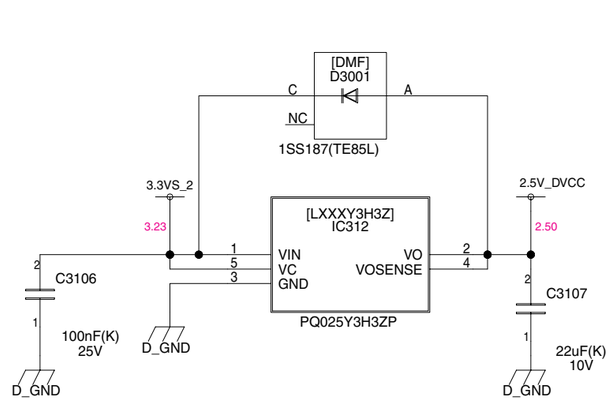
52HMX84/62HMX84 SH.NO.
OPSS_SCALER (IIC) 305



52HMX84/62HMX84
OPSS_SCALER (94TB_POWER)

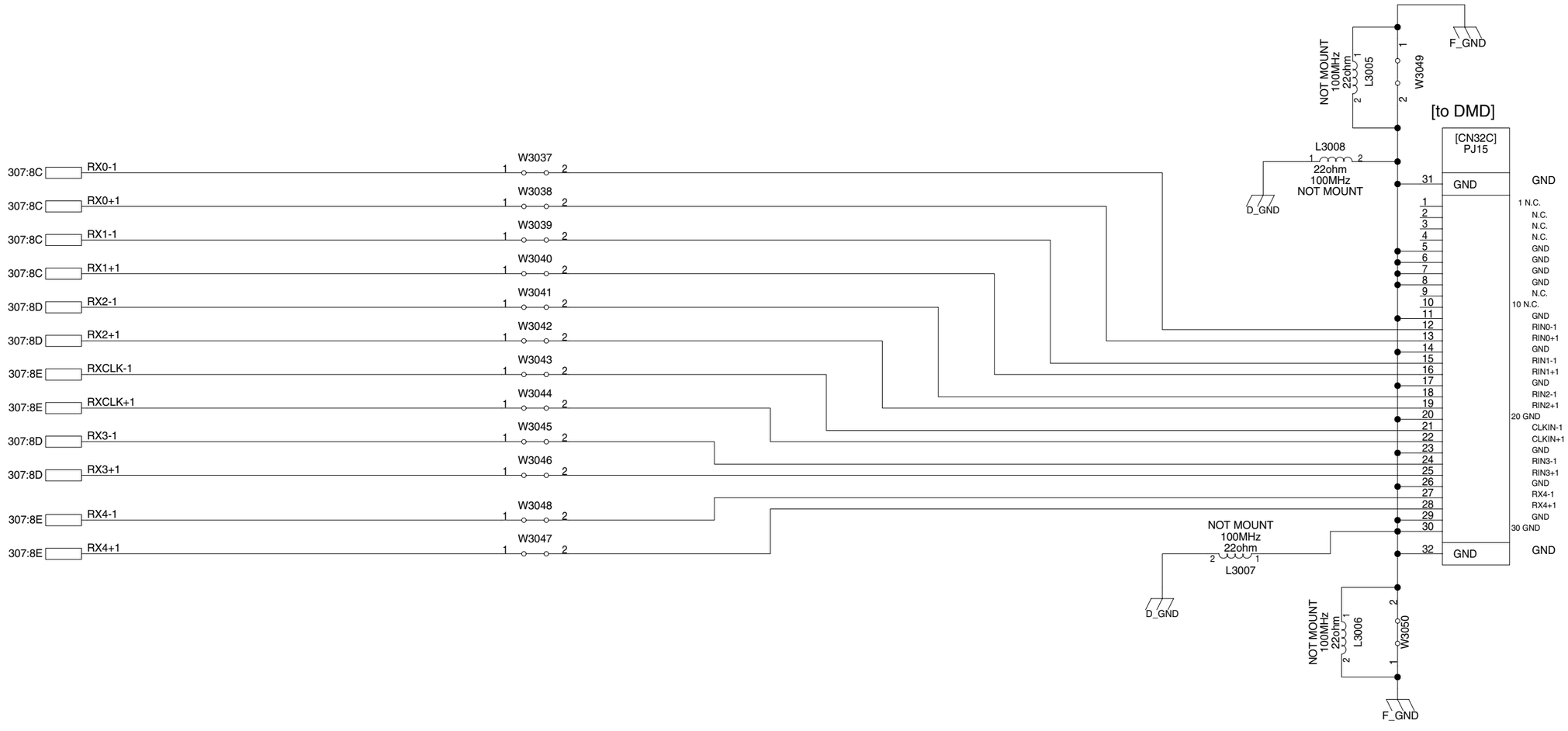
SH.NO.
306


FPD_DBEP 5/9
[G90A94]
IC301
[PANEL I/F]
AD20 OUTPHASE
AE22 PANELSETUP3
AF22 PANELSETUP2
AC18 PANELSETUP1
AD19 PANELSETUP0
L:Phase 1
H:Phase 2
G1OUT9 G1OUT8 G1OUT7 G1OUT6 G1OUT5 G1OUT4 G1OUT3 G1OUT2 G1OUT1 G1OUT0
B1OUT9 B1OUT8 B1OUT7 B1OUT6 B1OUT5 B1OUT4 B1OUT3 B1OUT2 B1OUT1 B1OUT0
R1OUT9 R1OUT8 R1OUT7 R1OUT6 R1OUT5 R1OUT4 R1OUT3 R1OUT2 R1OUT1 R1OUT0
G2OUT9 G2OUT8 G2OUT7 G2OUT6 G2OUT5 G2OUT4 G2OUT3 G2OUT2 G2OUT1 G2OUT0
B2OUT9 B2OUT8 B2OUT7 B2OUT6 B2OUT5 B2OUT4 B2OUT3 B2OUT2 B2OUT1 B2OUT0
R2OUT9 R2OUT8 R2OUT7 R2OUT6 R2OUT5 R2OUT4 R2OUT3 R2OUT2 R2OUT1 R2OUT0
CKPANEL
HDOUT VDOUT DEOUT PARITY
NOT MOUNT R3054 4.7K(J) R3055 4.7K(J) 3.3VS_2 D_GND
R3056 NOT MOUNT R3057 4.7K(J) R3058 NOT MOUNT R3059 NOT MOUNT
R3060 4.7K(J) R3061 NOT MOUNT R3062 4.7K(J) R3063 4.7K(J)
[RMX4A] RM356 RM357 RM358 RM359 RM360 RM361 RM362 RM363 33(J)
R3069 33(J) R3070 R3071 R3072
LVDS TRANSMITTER
[U103]
IC311
for SHARP
(SELLVDS HIGH)
/PDWN RS R/F
TA0 TA1 TA2 TA3 TA4 TA5 TA6
TB0 TB1 TB2 TB3 TB4 TB5 TB6
TC0 TC1 TC2 TC3 TC4 TC5 TC6
TD0 TD1 TD2 TD3 TD4 TD5 TD6
TE0 TE1 TE2 TE3 TE4 TE5 TE6
CLKIN
[LVDSVCC] [PLLVCC] [VCC] [VCC]
[LVDSGND] [LVDSGND] [LVDSGND] [PLLGND] [GND] [GND] [GND] [GND] [GND]
HDOUT VDOUT DEOUT
MOUNT W3036 PWDN_MUTE 500:5D
NOT MOUNT W3035 SUB_RESET2
303:1C;305:2D;305:4B;500:2B
100MHz 220ohm L3004 L3003
C3099 100pF(J) C3102 10nF(K) C3100 100pF(J) C3103 C3101 470pF(J) C3104 C3098 470pF(J) C3105 10nF(K) 50V
[FL09B] FL302 FL303 FL304 FL305 FL306 FL307
TA+ TA- TB+ TB- TC+ TC- TD+ TD- TE+ TE- TCLK+ TCLK-
RX0+1 RX0-1 RX1+1 RX1-1 RX2+1 RX2-1 RX3+1 RX3-1 RX4+1 RX4-1 RXCLK+1 RXCLK-1
ACM2012-201-2P-T
309:1C 309:1B 309:1D
52HMX84/62HMX84
OPSS_SCALER (LVDS_OUT)
SH.NO.
307



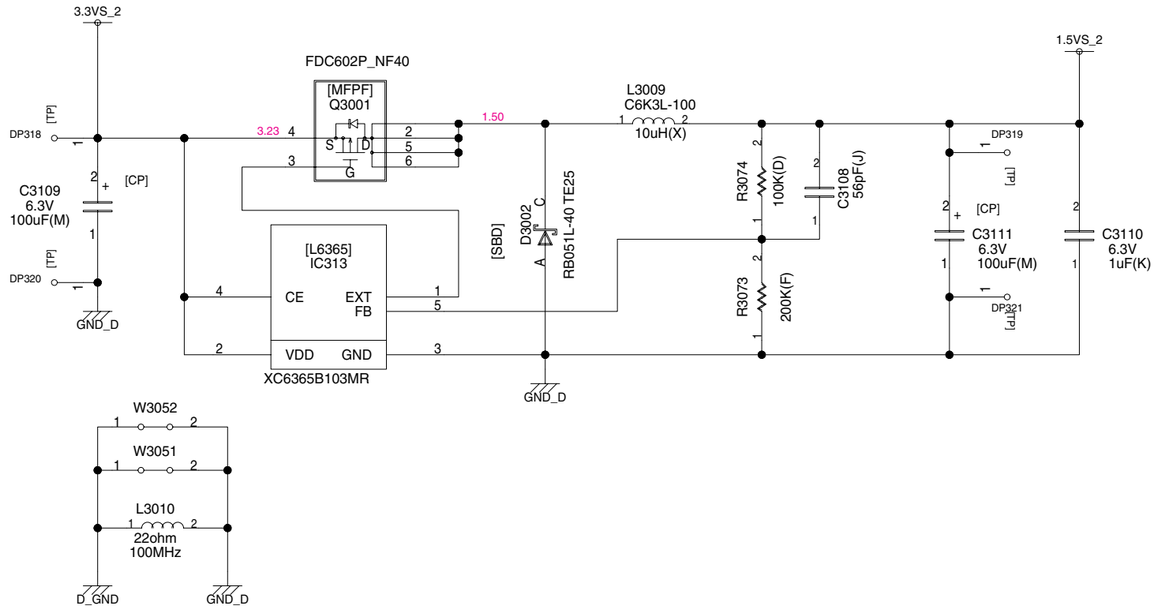
52HMX84/62HMX84
OPSS_SCALER (POWER-3.3V_2_TO_2.5V_DVCC)

SH.NO.
308



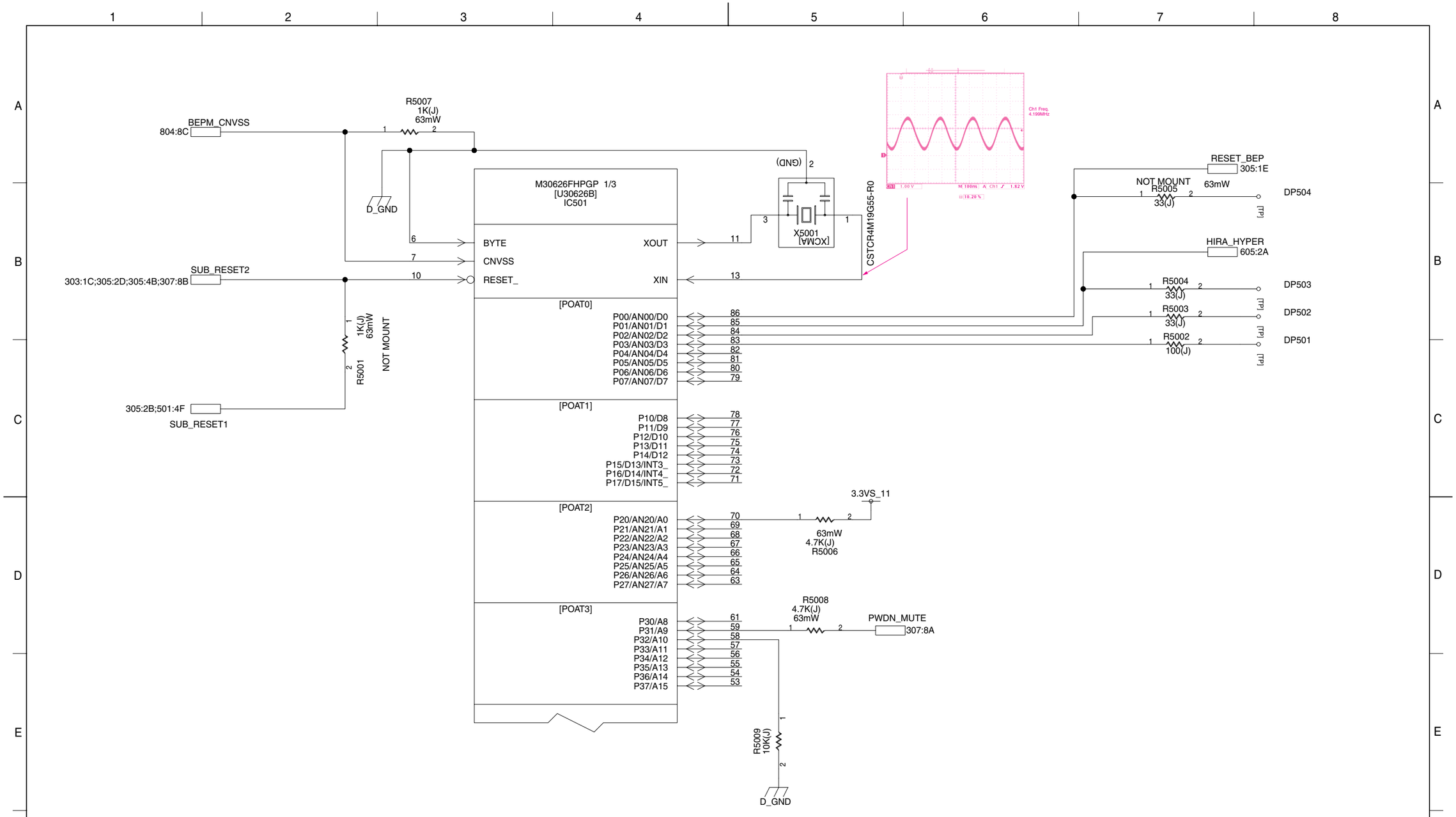
52HMX84/62HMX84
OPSS_SCALER (LVDS_OUT_CONNECTOR)

SH.NO. 309



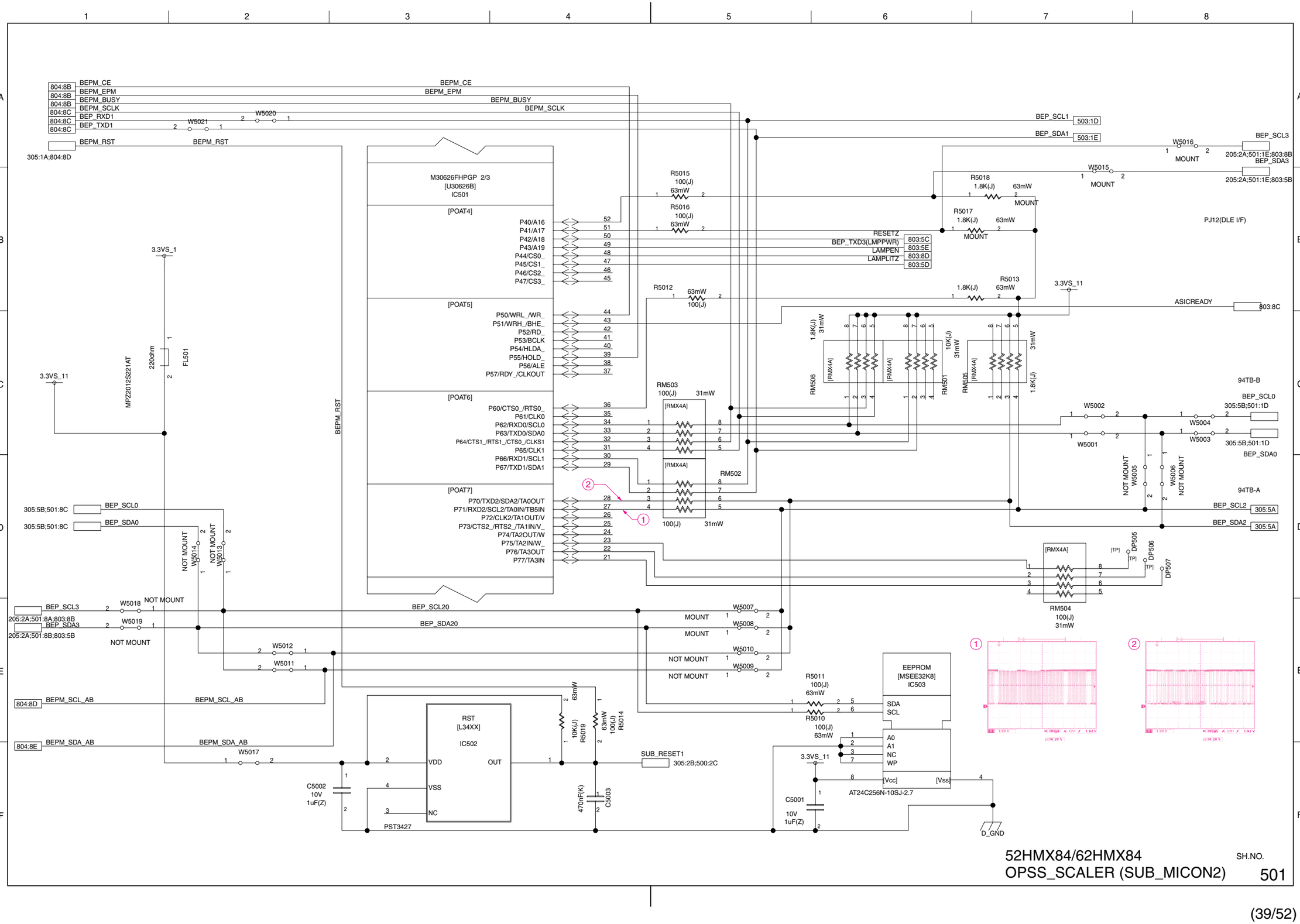
52HMX84/62HMX84
OPSS_SCALER (DC/DC_CONVERTER)

SH.NO.
310



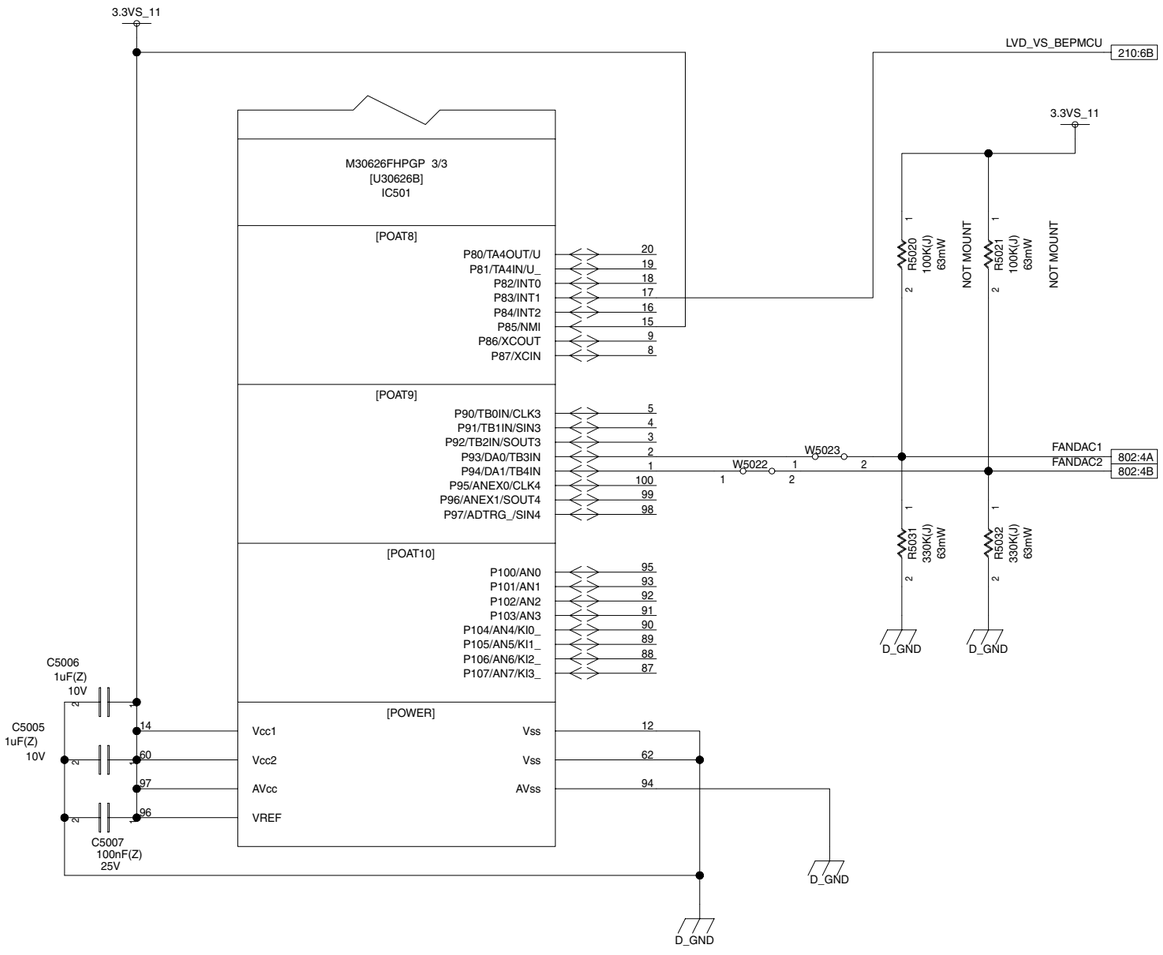
52HMX84/62HMX84
OPSS_SCALER (SUB_MICON1)

SH.NO.
500



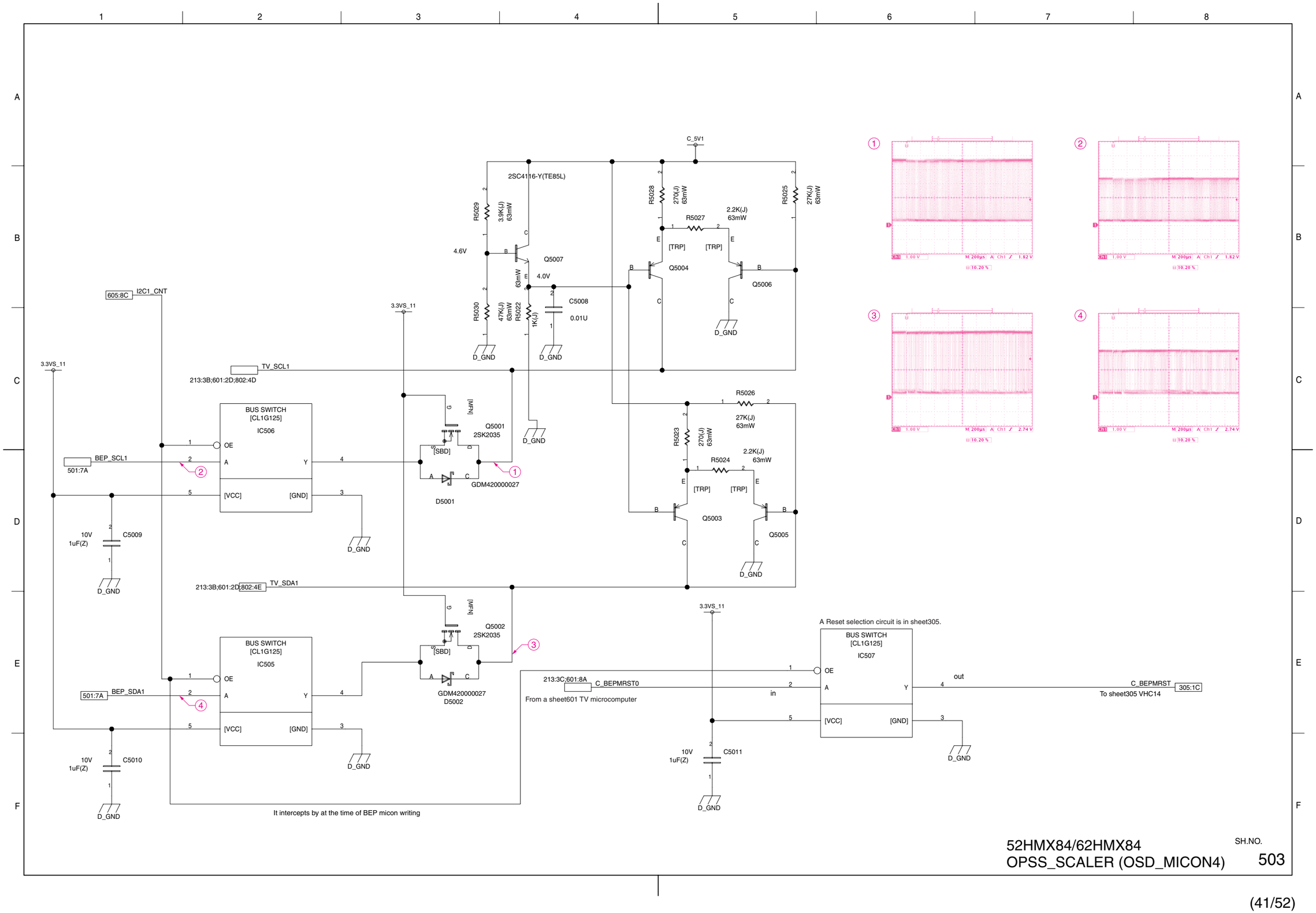
52HMX84/62HMX84
OPSS_SCALER (SUB_MICON2)

SH.NO. 501



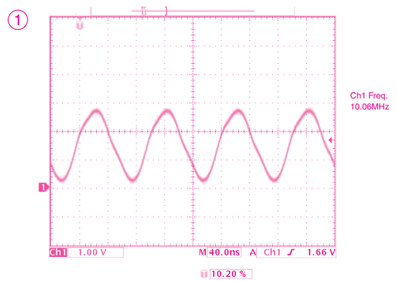
52HMX84/62HMX84
OPSS_SCALER (SUB_MICON3)

SH.NO.
502



52HMX84/62HMX84
OPSS_SCALER (OSD_MICON4)

SH.NO.
503



[DMF] D6001 A C NC

[TP] DP602

[TP] DP601

C_3.3V

C6001 100nF(Z) 25V

R6013 10K(J)

R6005 1K(J)

W6001 NOT MOUNT

W6002 NOT MOUNT

R6016 1K(J)

R6001 1K(J)

R6002 1K(J)

R6002 NOT MOUNT

2.2uF(K) C6005

304:7C C_OSD_R0

R6018 47(J)

R6015 33K(J)

802:4C C_ACP

801:8B C_RMT_IN

R6003 2.2K(J)

R6004 47K(J)

602:1F;801:4B C_BOOT

R6014 100(J)

304:7C C_OSD_G0

R6019 47(J)

304:7D C_OSD_B0

R6020 47(J)

602:1E;603:2D;801:4B C_RST

R6008 1K(J)

R6119 68K(J)

W6003

R6024 47(J) NOT MOUNT

NOT MOUNT

R6025 1M(J)

R6007 10K(J) NOT MOUNT

NOT MOUNT

220pF(J) C6009

C6007 1nF(K)

C6003 100nF(Z) 25V

R6006 1K(J)

C6002 100nF(Z) 25V

[XCMA] X6001

CSTCE10M0G52-R0

(GND)

D_GND

3.29

3.29

M306V7MG-082FP U0
[U306V7FG]
1/3
IC601

1	VHOLD1	CVIN1	100
2	HLF1	VCCE	99
3	P94/DA1/SCL3/RxD2	TVSETB	98
4	P93/DA0/SDA3/TxD2	CVIN2	97
5	P92/TB2IN/DIGR0	HLF2	96
6	P91/TB1IN	VHOLD2	95
7	P90/TB0IN	P102/AN0	94
8	BYTE	P103/AN1	93
9	CNVSS	P104/AN2	92
10	P87/XCIN/DIGG0	P105/AN3/DIGB2	91
11	P86/XCOUT/DIGB0	P106/AN4/DIGG2	90
12	RESET	P107/AN5/DIGR2	89
13	XOUT	P00/D0	88
14	VSS	P01/D1	87
15	XIN	P02/D2	86
16	VCCI	P03/D3	85

604:3C C_CVIN1
604:3E C_CVIN2

C_5V1

C_3.3V

R6009 33K(J) NOT MOUNT

C6010 330pF(J)

C6011 330pF(J)

D_GND

R6010 1K(J) C_KEY_AB 601:6F

R6011 1K(J) C_AFT2 802:8B

R6012 1K(J) C_AFT1 802:8A

R6023 47(J) C_OSD_B2 304:7C

R6022 47(J) C_OSD_G2 304:7C

R6021 47(J) C_OSD_R2 304:7C

C_D[0-3] 603:3C

[RMX4A] RM601

C_D[0] C_D[1] C_D[2] C_D[3]

47(J) 31mW

R6017 1K(J)

C6004 100nF(Z) 25V

C6008 220pF(J)

C6012 1nF(K)

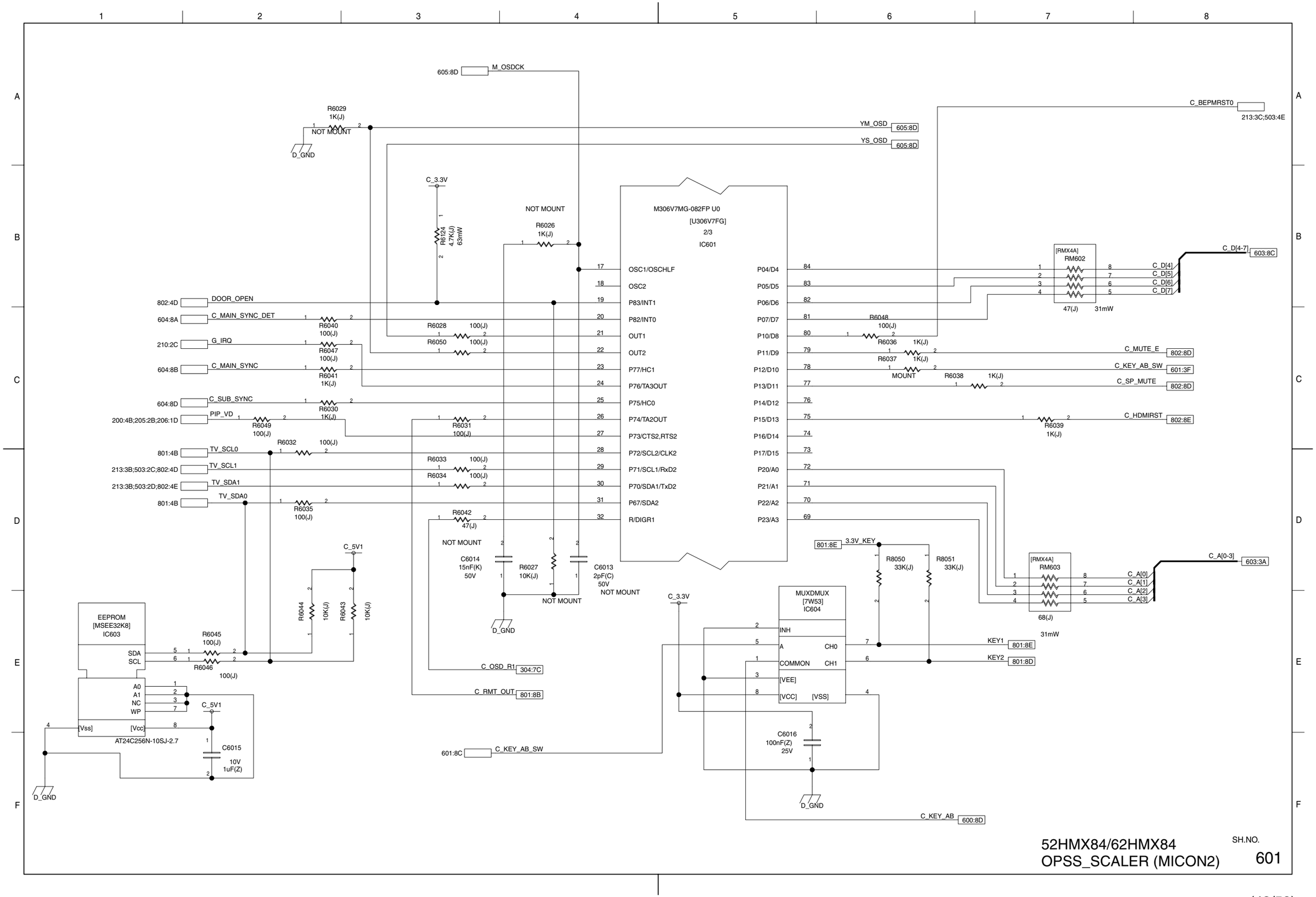
C6006 2.2uF(K)

D_GND

① When a microcomputer is mask-ized, it is NOT MOUNT about R6007. It is MOUNT about R6013.

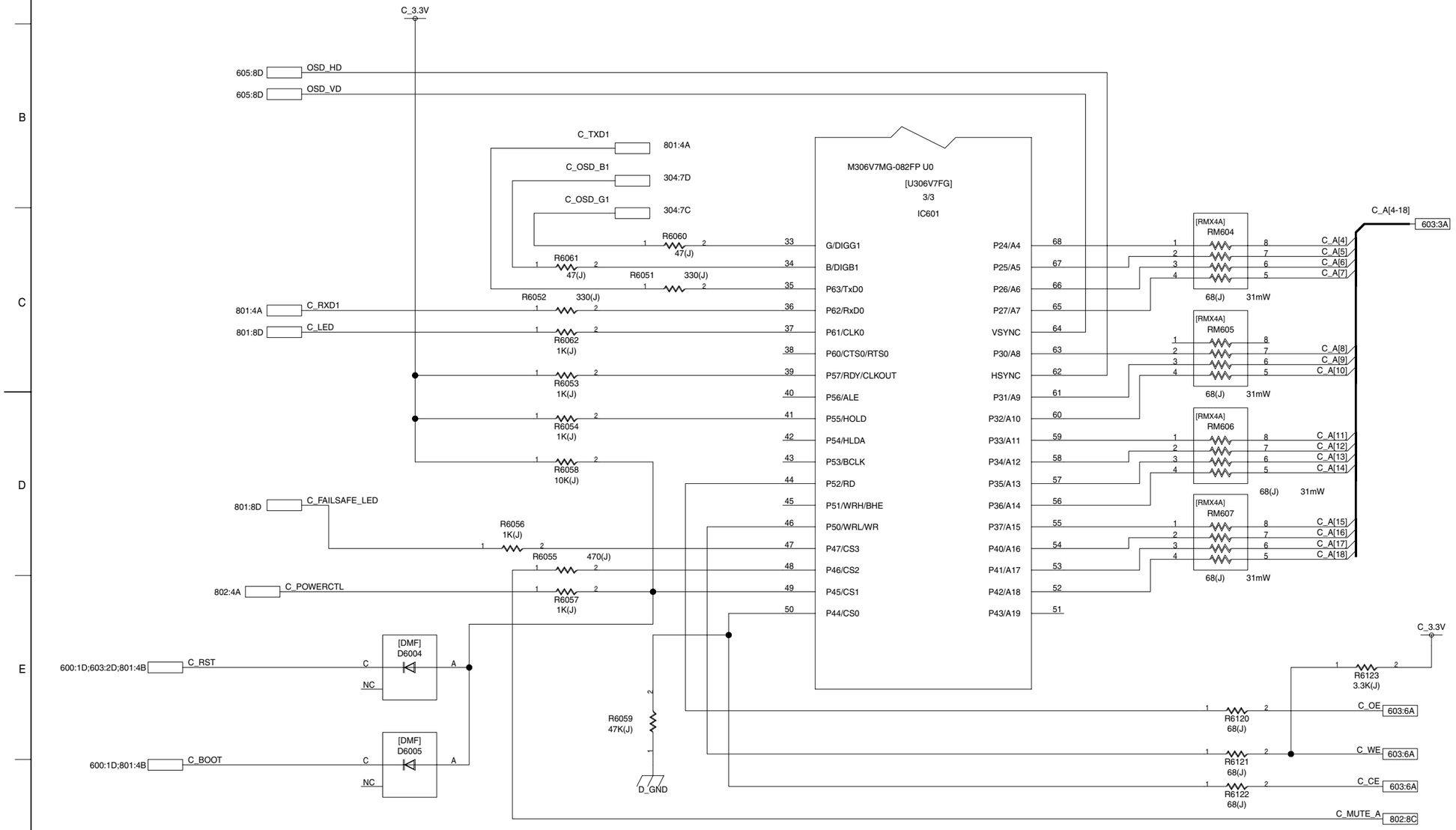
52HMX84/62HMX84
OPSS_SCALER (MICON1)

SH.NO. 600

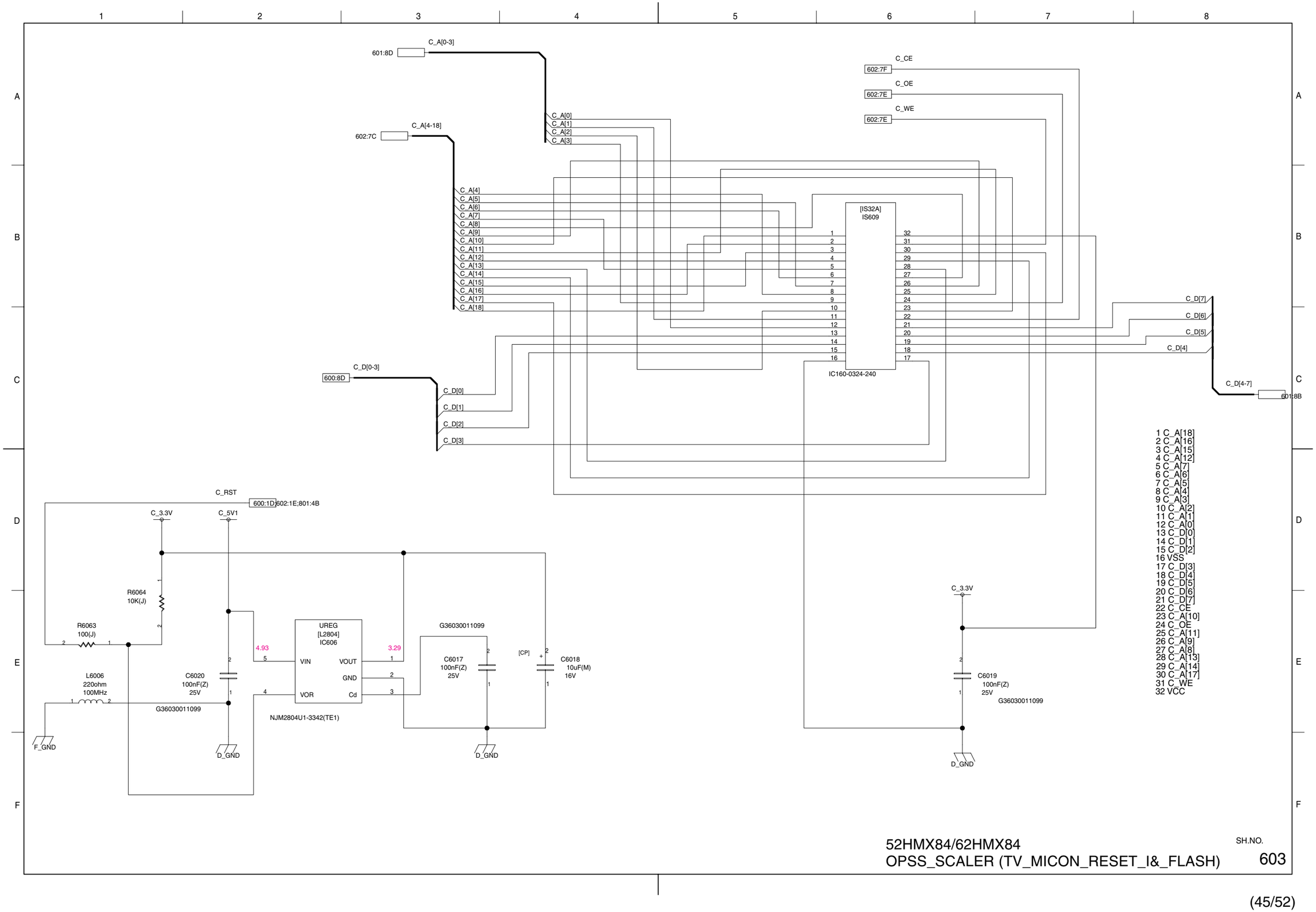


52HMX84/62HMX84
OPSS_SCALER (MICON2)

SH.NO. 601

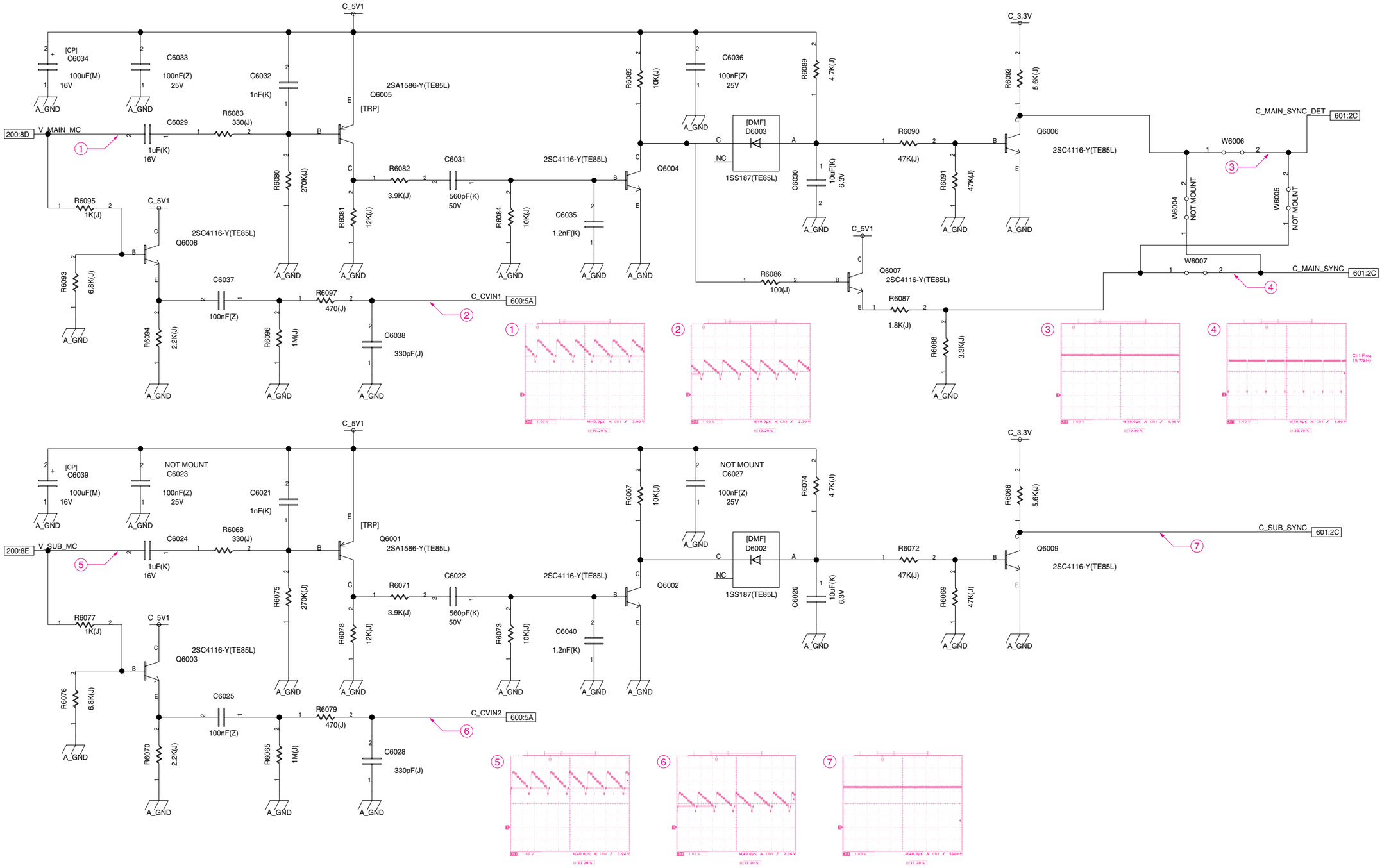


52HMX84/62HMX84 SH.NO.
OPSS_SCALER (MICON3) 602



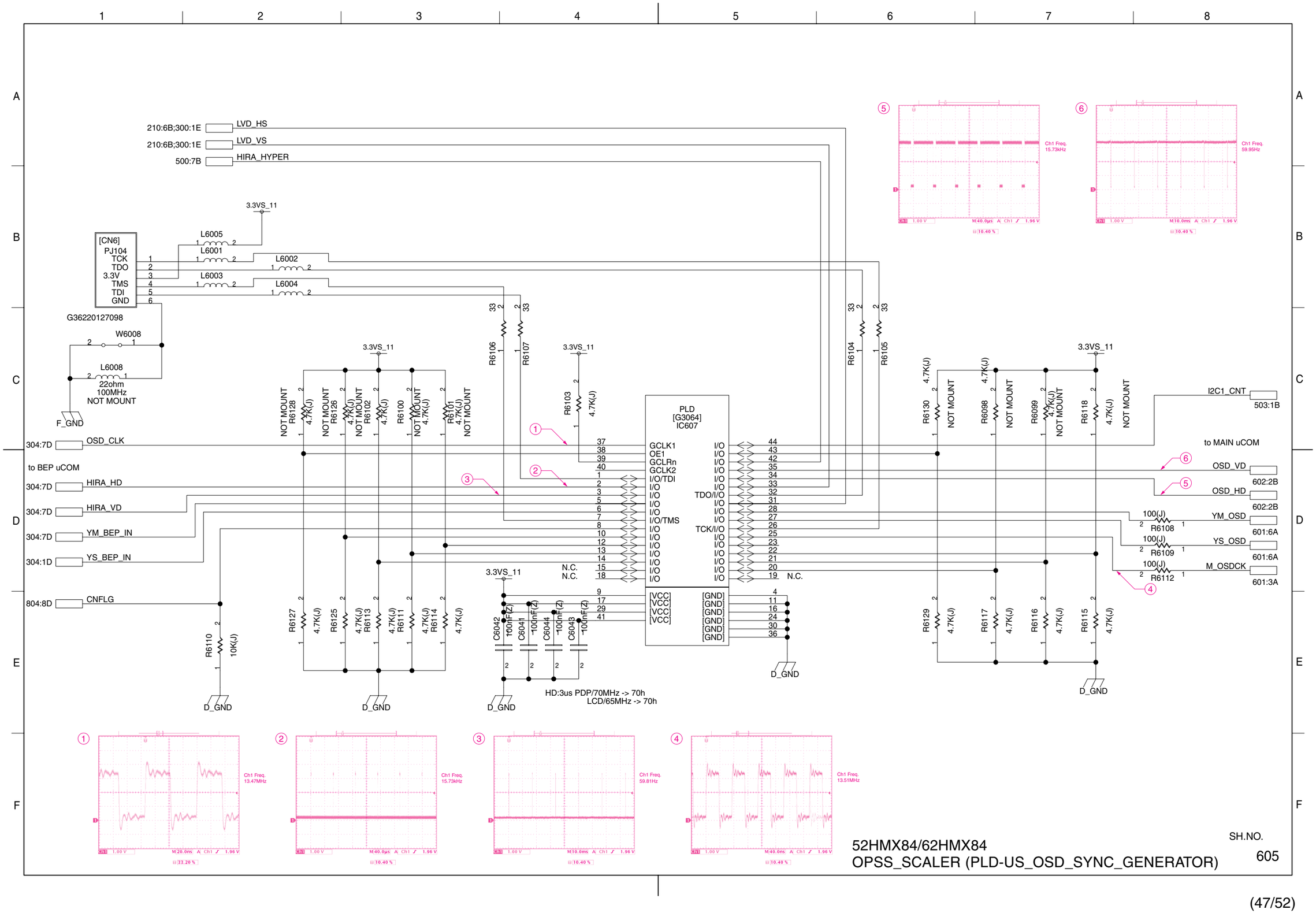
52HMX84/62HMX84
OPSS_SCALER (TV_MICON_RESET_I&_FLASH)

SH.NO.
603



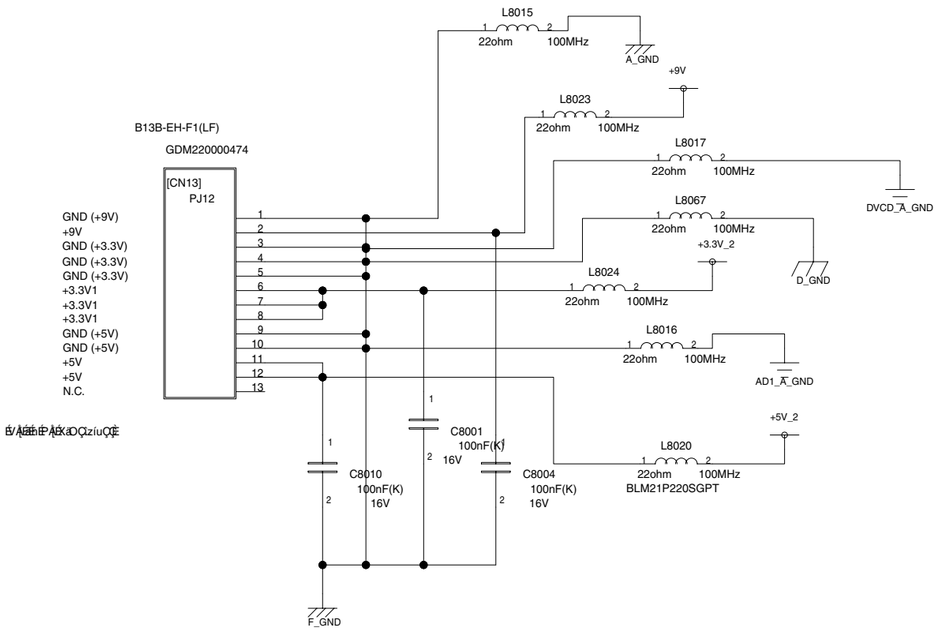
52HMX84/62HMX84
OPSS_SCALER (SYNC_DETECT)

SH.NO.
604



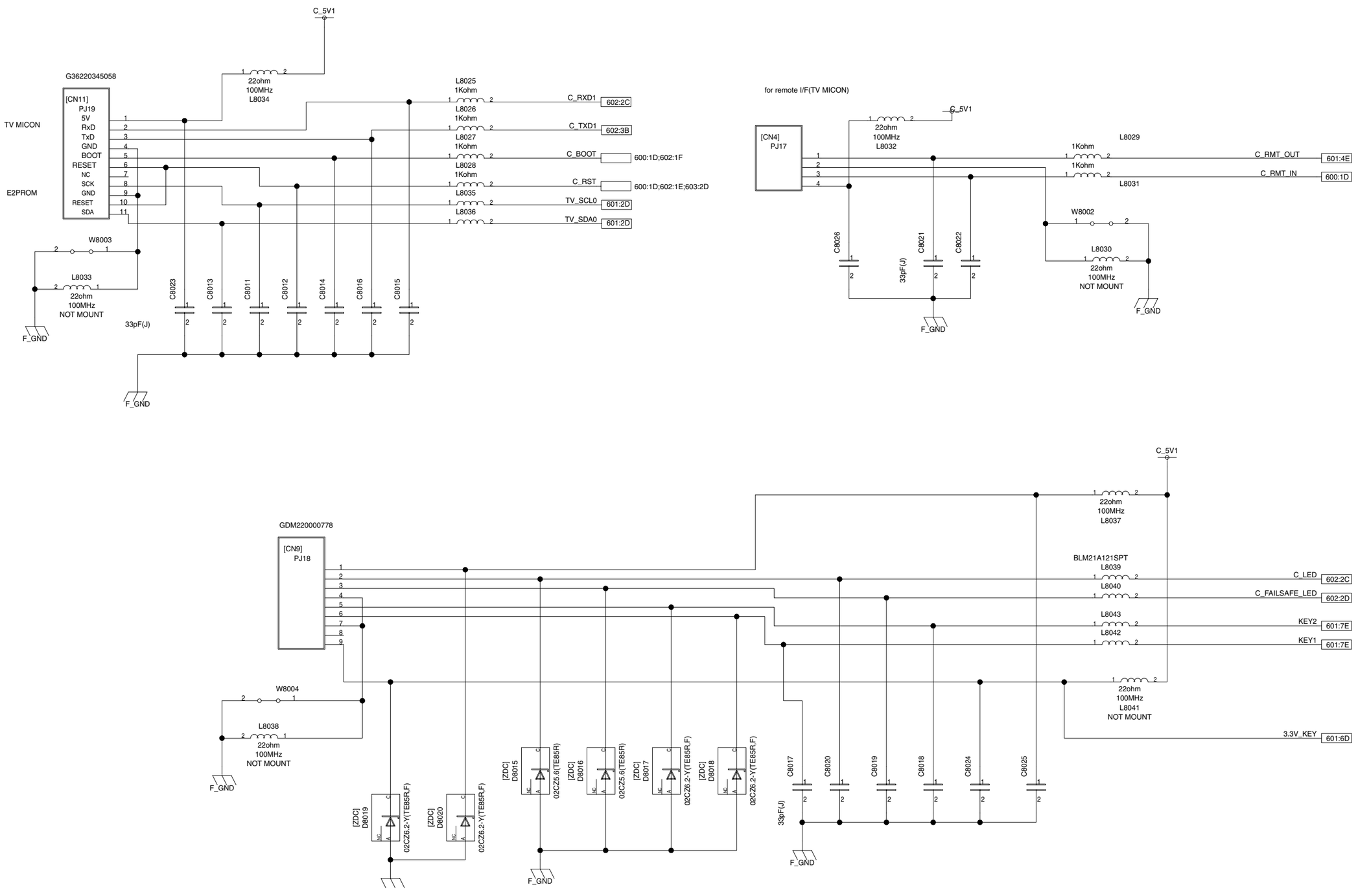
52HMX84/62HMX84
OPSS_SCALER (PLD-US_OSD_SYNC_GENERATOR)

SH.NO.
605



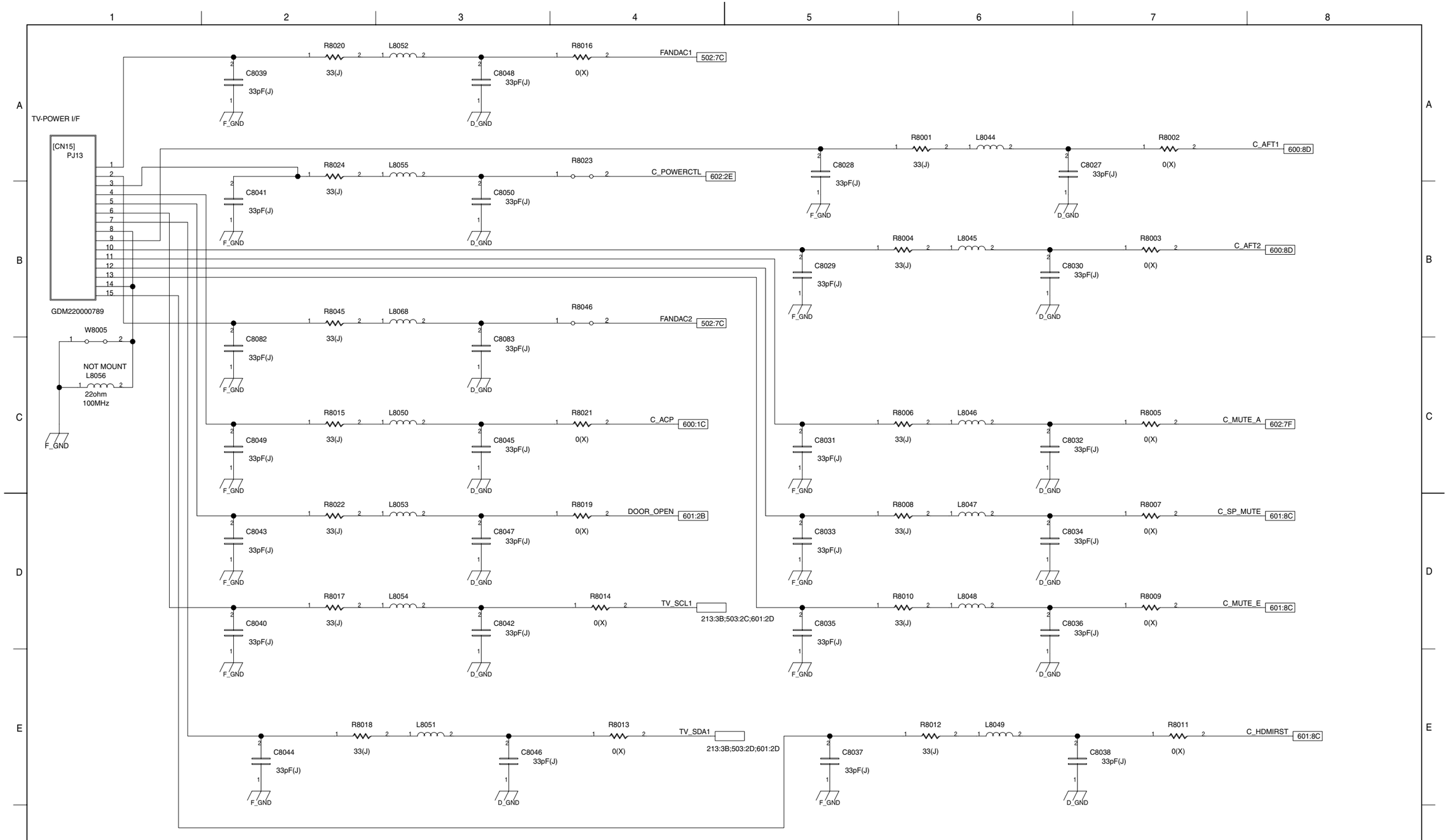
52HMX84/62HMX84
OPSS_SCALER (POWER_CONNECTOR)

SH.NO.
800



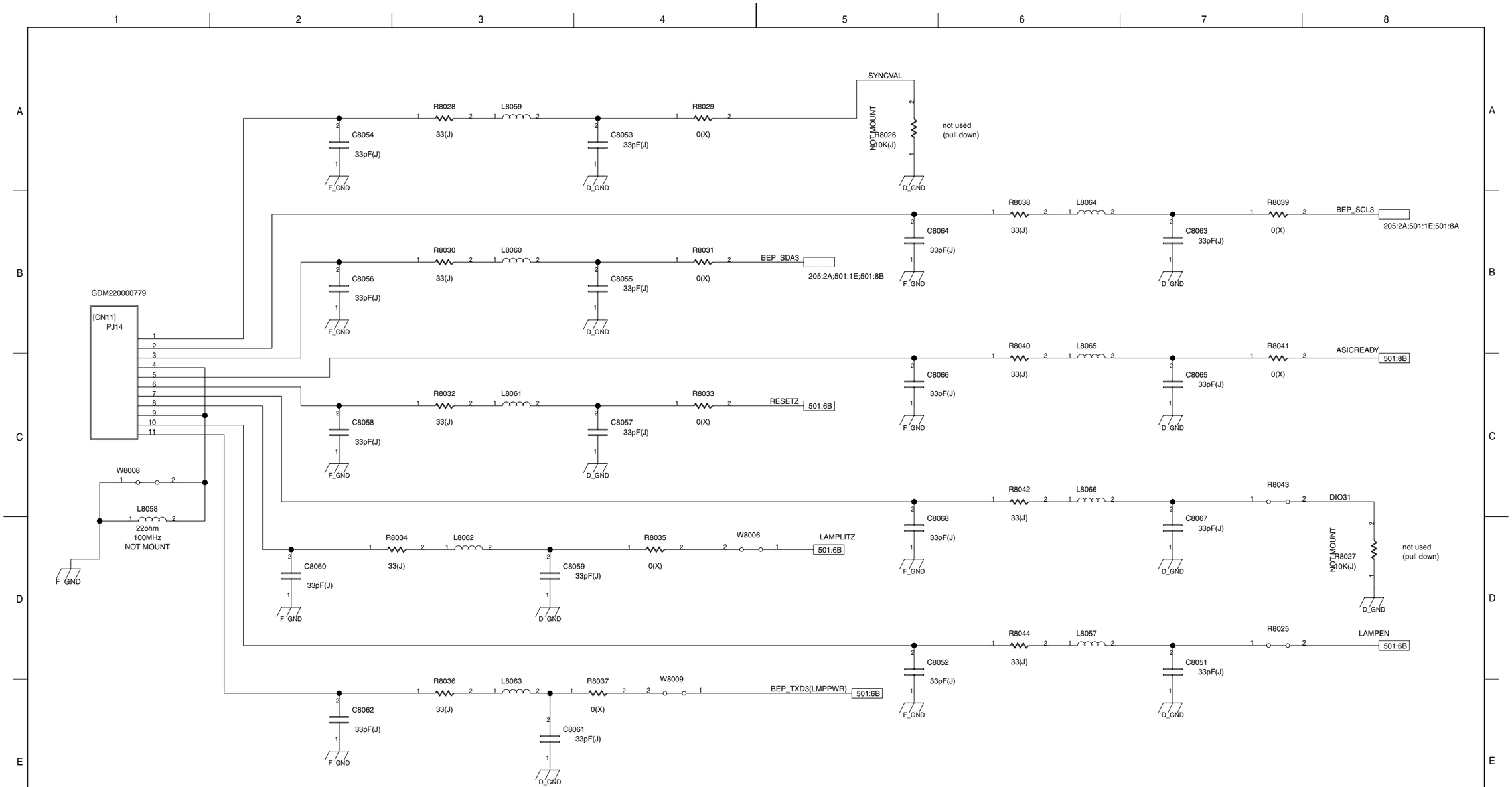
52HMX84/62HMX84
OPSS_SCALER (TV_MICON_CONNECTOR)

SH.NO.
801



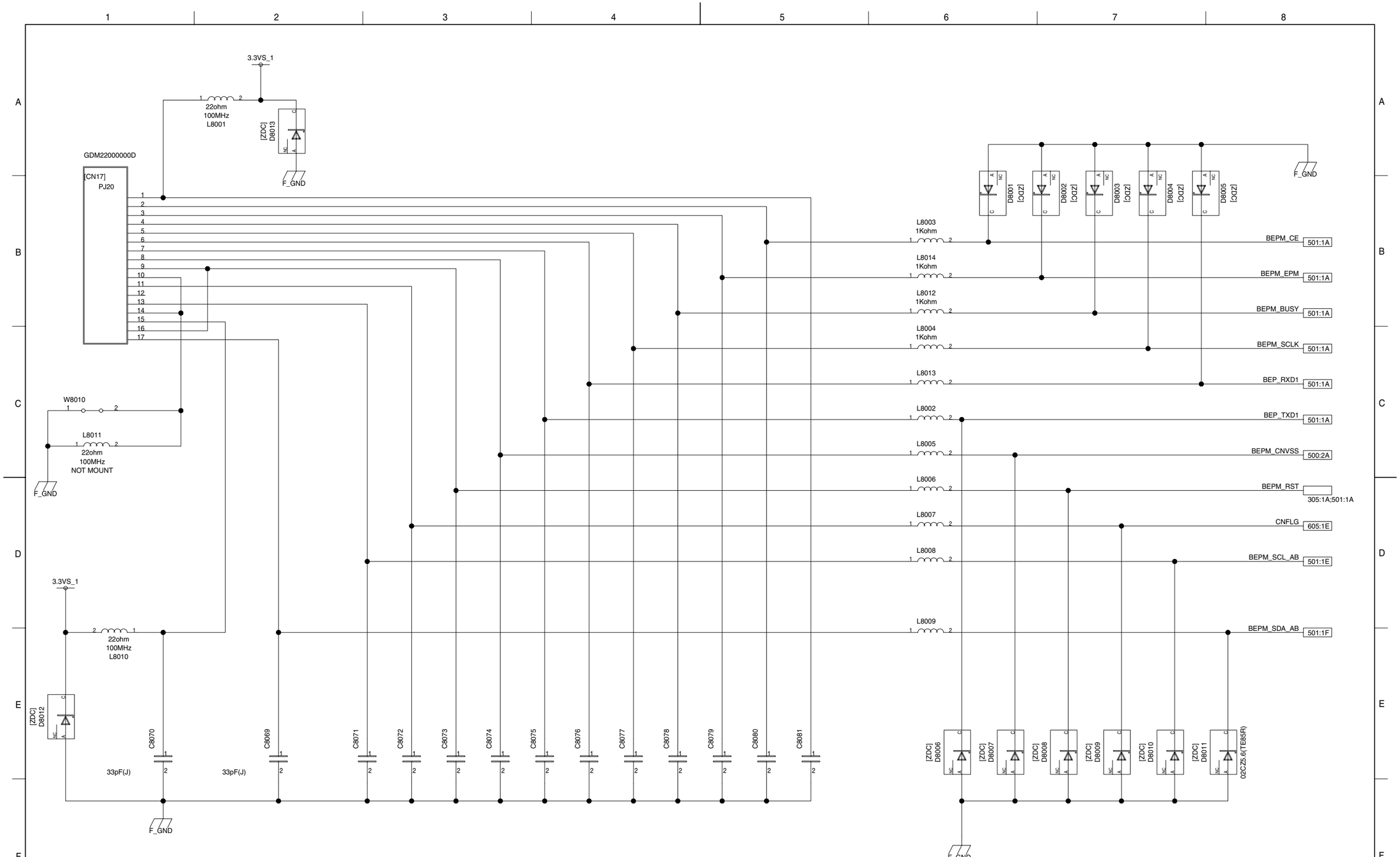
52HMX84/62HMX84
OPSS_SCALER (CONNECTOR-TV_MICON_POWER_BOARD)

SH.NO.
802



52HMX84/62HMX84
OPSS_SCALER (CONNECTOR-DLF_I/F)

SH.NO.
803



52HMX84/62HMX84
OPSS_SCALER (SERVICE_CONNECTOR)

SH.NO.
804

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1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN